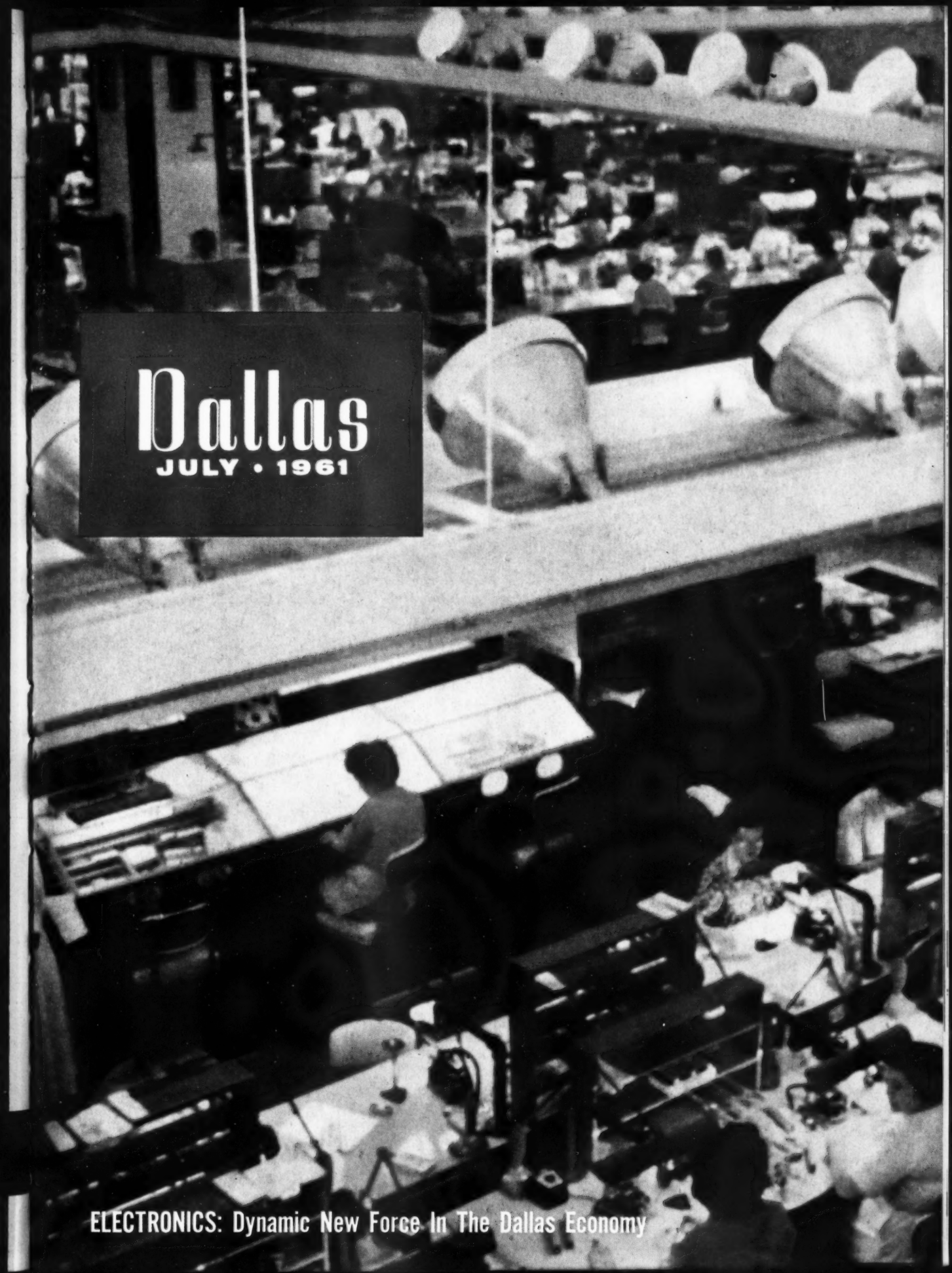

Dallas

JULY • 1961

ELECTRONICS: Dynamic New Force In The Dallas Economy

LONE STAR CADILLAC HELPS GOOD FRIENDS ENJOY GOOD TIMES MORE. A CADILLAC IS A CONSTANT INVITATION TO GO SOMEWHERE . . . DO SOMETHING. IF IT'S VACATION TIME, CADILLAC WILL BE YOUR WELCOME COMPANION. THE PASSING OF TIME AND DISTANCE IS A TRULY PLEASURABLE PASTIME TO THE CADILLAC DRIVER AND PASSENGERS. SEE THE INCOMPARABLE 1961 CADILLAC NOW IN OUR SHOWROOM . . . 2301 ROSS AVENUE • ALWAYS PLENTY OF FREE PARKING SPACE.

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Inside DALLAS

Electronics, the glamour industry of America today, is one that is playing a leading role in the Dallas economy. This issue of DALLAS illustrates, in depth, the importance of the electronics industry to Dallas, today as well as in the future.

*

Information for this month's issue came from literally dozens of electronics firms as well as from various research sources. Stories in this issue report an overall look at Dallas electronics, a complete listing of electronics manufacturers and a glimpse at the important distribution aspect.

*

The story of Texas Instruments, one of Dallas' most outstanding firms, is told in a separate article. Alpha Corporation also tells why it came to Dallas.

*

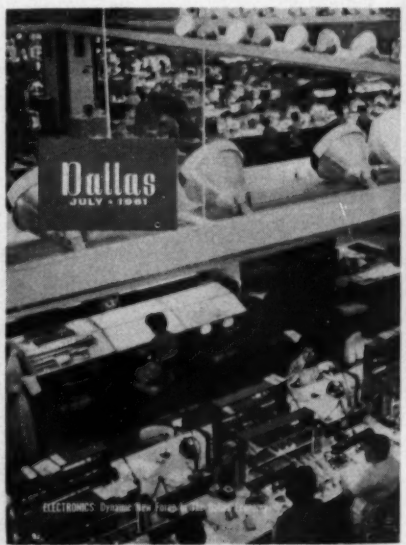
A special DALLAS feature is an article by James J. Ling, in which he surveys the electronics future for this area. Another story tells of the creation of Ling-Temco-Vought.

*

Important to the electronics field is research. In an article reprinted by permission of "The Saturday Review," Dr. Lloyd V. Berkner tells of the plans for the Graduate Research Center. Also in this month's issue is a report on research being done by individual electronics companies.

*

The month's cover shows an interior shot of the huge Semiconductor-Components plant of Texas Instruments.



Volume 40 • Number 7

DALLAS is published monthly by the Dallas Chamber of Commerce, Dallas 1, Texas. Second-class postage paid at Dallas, Texas. Subscription $5 a year outside Metropolitan Dallas.

"DINE IN THE BEAUTIFUL *Ranch* and *Gay Nineties* ROOMS"

CATTLEMEN'S

PRESTON CENTER

DALLAS

A SIDE LOOK AT A NEIGHBOR—AT NIGHT!

this is not an aerial photograph . . . it is a TI side-looking radar map of Dallas, Texas made from an airplane flying over Ft. Worth!

Maps as clear as the one above and free of perspective distortion are produced now through completely new side-looking radar surveillance systems developed by Texas Instruments for the Department of Defense. ■ A major deterrent to "small wars," these systems can look deep into unfriendly territories from aircraft flying in safe skies, cutting through fog, darkness, or even camouflage, to reveal and record troop or materiel concentrations and movements — at the rate of thousands of square miles per hour! ■ Three different types of these systems, combining such features as are necessary for specific applications, provide a wide range of surveillance mapping capabilities *from manned or unmanned aircraft.* ■ This significant development by TI's Apparatus division clearly illustrates the ability to combine diversified technologies and experience to solve complex electronic systems problems. TI's activities encompass: infrared, microwave, optics, photography, semiconductors and components, materials, systems management, and geosciences. ■ If you are interested in knowing more about TI facilities and capabilities, for booklet please write: Merchandising Dept., Texas Instruments Incorporated, P. O. Box 5474, Dallas 22, Texas.

TEXAS INSTRUMENTS

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rely on T/I!

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Dallas Pioneers

Established
1852 Caruth
Real Estate Investments

1869 Padgitt Bros. Company
Leather Goods — Wholesale and Retail

1872 Huey & Philp Company
Wholesale Hardware, Hotel and Restaurant Supplies & Equipment

1874 Bolanz & W. C. (Dub) Miller
Real Estate and Insurance

1874 Binyon-O'Keefe Warehouse Co.
"Moving, Household Goods, and Commercial Warehousing"

1876 Trezevant & Cochran
Insurance Managers

1884 The Dorsey Company
Printers — Lithographers Stationers — Office Furniture

1885 Mosher Steel Company
Structural Reinforcing Steel and Machinery Repairs

1889 Austin Brothers Steel Co.
Steel for Structures of Every Kind

1892 The Egan Company
Printing, Lithographing, and Embossed Labels

1895 Rudolph's Mkt. & Sausage Fac., Inc.
Quality Meats

1899 Seay & Hall
All Lines of Insurance

FAST PURSUIT of criminals as well as traffic control of horse and wagon traffic on busy Dallas' downtown corners was all part of the day's work for the above Dallas mounted patrol about the turn of the century. In 1903, George Smith, who had been a detective sergeant on the Dallas' Police Force during the nineties, resigned to form the Smith Detective & Nightwatch Service. Manpower was the background of this organization and fast communication was achieved by telephone and telegraph. Today — Electronics — forms the backbone of Smith Detective & Nightwatch Service, managed by George Smith, an electrical engineer and son of the founder. A variety of electronic connections funnel into the Smith headquarters from its 2,500 to 3,000 customers in Dallas, hooked up with such modern devices as ultrasonic alarm systems to detect intruders, proximity systems, protecting safes and files, sensitive smoke detection devices that spot fires in their formative stages and alarms that hook up with sprinkler systems. The firm operates 23 patrol cars with 2-Way Radio and 8 trucks similarly equipped. Smith Detective Agency & Nightwatch System now has 250 employees including electronic technicians. Within minutes their central office signal police and/or fire, along with Smith uniformed men are at the scene of an alarm to cope with fire, water damage or burglars.

Business Confidence Built on Years of Service

Old firms, like old friends, have proved their worth by dependable service through years of prosperity and adversity. The business pioneers listed on this page have played an important part in building Dallas. They have met the challenge of economic change through decades of sustained operations. They are counted as "old friends" by thousands of satisfied customers in the Dallas Southwest.

Established
1889 Bennett's *in Texas*
Opened Dallas Plant in 1927
Printing — Business Machines
Office Furniture & Supplies

1896 The Murray Co. of Texas, Inc.
Carver Cotton Gin Division 1805
Boston Gear Works Division 1880
Industrial Supply Division 1907

1903 Smith's Detective Agency
Burglar Alarm, Fire Alarm
Radio Patrol Service

1903 Walraven Bros., Inc.
Printing, Lithography
Loose Leaf Binders

1903 Republic Insurance Company
Writing Fire, Tornado, Allied Lines, Inland Marine, and Automobile Insurance

1904 Burton & Wilkin
"Insurance Experience that Serves"

1906 Hesse Envelope Company
Manufacturers of Envelopes and File Folders

1910 Moser Co. Realtors
Industriel and Commercial Leases and Sales

1911 Graham-Brown Shoe Company
Manufacturing Wholesalers

1912 Stewart Office Supply Company
Stationers — Office Outfitters

1914 Koch & Fowler and Grafe, Inc.
Consulting Engineers

CONTENTS THIS MONTH

HAL DAWSON
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JEAN THOMPSON
Managing Editor

THOMAS J. McHALE
Advertising Manager

LOIS MILLS DURDEN
Advertising Associate

LOUISE TATE
Advertising Assistant

Dallas

JULY • 1961

VOLUME 40 NUMBER 7

ESTABLISHED IN 1922 BY THE DALLAS CHAMBER OF COMMERCE IN THE INTEREST OF DALLAS AND THE SOUTHWEST

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12 TELEPHONE "LINES" SPAN 409 MILES OF CHINA SEA...ON ONE RADIO SIGNAL

A 409-mile stretch across the heart of "Typhoon Alley" separates the Far Eastern islands of Formosa and Okinawa — both vital outposts in our nation's defense. Reliable communications between the two outposts is a must. Marine cable is impractical, and conventional radio is vulnerable to weather conditions, poor transmission, jamming, etc. A group of Dallas engineers — from Collins Radio Company and Alpha Corporation, a subsidiary — solved the problem. The result: The Pacific Scatter Network, a long-range communication system utilizing the jam-proof, weather-proof Transhorizon scatter principle to provide 12 channels for voice, teletype, telegraph and data transmission. In short, the same facilities that 12 telephone lines or a 12-circuit marine cable would provide — and on a single radio signal.

The Collins organization pioneered the development of practical Transhorizon communications and also has led in hundreds of other electronic and communications advances, ranging from pure research to microwave, radar and airborne electronics.

Collins came to Dallas in 1951; Alpha was formed in 1959. Today, more than 3,000 men and women work in 11 Collins and Alpha facilities in metropolitan Dallas.

COLLINS Alpha

NORTH LAKE SHOPPING CENTER

Another MAJORS & MAJORS

INVESTMENT PROPERTY

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LAND — in the right location

Land — that offers growth.

Opportunity comes in square feet — in land near industry — markets — churches — schools — land that centers on people with expanding buying power.

Majors & Majors specializes in real estate with opportunity.

We know land. We understand investors needs. We can help you find the land that meets your investment property specifications.

TRANSACTION

1958 — J. M. Tuttle sold this 15-Acre tract to David Bruton, Jr. and Bedford Wynne for $300,000 for shopping center development. Dick Parker and Fred Smitham of Majors & Majors handled this transaction.

Bruton & Wynne spent approximately $1,000,000 for site improvement and buildings. Dick Parker and Fred Smitham of Majors & Majors acted as leasing agents for this center.

1961 — Bruton & Wynne sold this property to Northlake Corporation, headed by James H. Clark, for $1,500,000. Mr. Clark bought this center for long-term investment property. Dick Parker and Fred Smitham of Majors & Majors, handled this transaction.

SHOPS AVAILABLE FOR LEASE

In this proven shopping center. In 1958 there were 10,000 people within a 1½ mile radius. Today — the figure is 23,000 and building continues at a fast pace. Homes are in the $20,000-$25,000-$40,000 and UP class. Call Dick Parker or Fred Smitham for specific information on opportunity locations in North Lake Shopping Center.

MAJORS AND MAJORS REALTORS

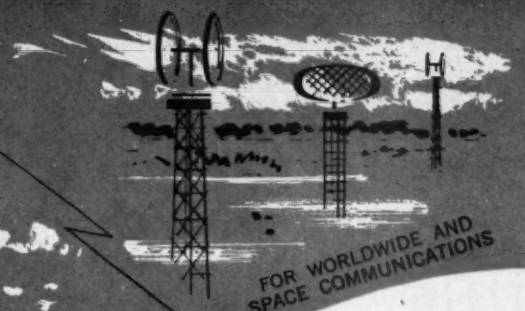
Real Estate Is Your Best Investment

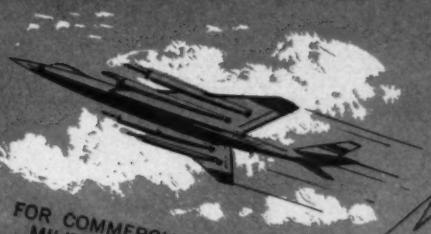
803 First National Bank Building • Dallas • RI 1-4553

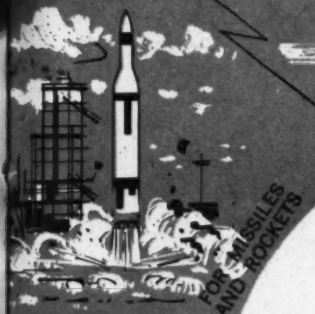
B. Hick Majors — *Z. L. (Lank) Majors 1915-1959*

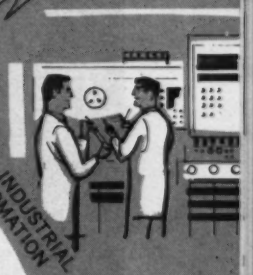
Associates: *Wesley Harris*, *Dick Parker*, *Fred Smitham*, *Henry Maher*, *Jess Alford, Jr.*, *Mack Pogue*, *Dan Majors*, *Boyd Ridgway*, *Jim Flowers*

DRESSER ELECTRONICS Serves Where Reliability Is Demanded







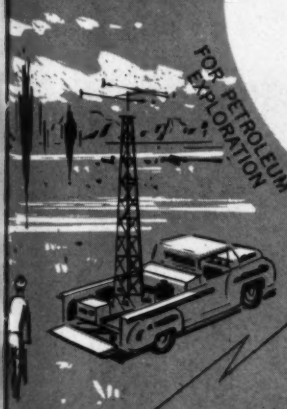


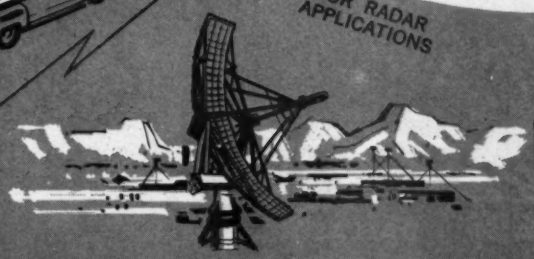
Components and Subsystems made by DRESSER ELECTRONICS have been selected . . .

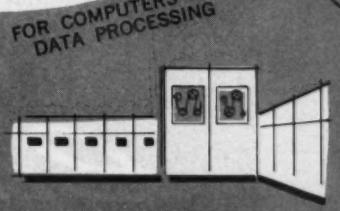
. . . to perform critical electronic functions for America's leading space-age industries including Collins, Boeing, RCA, General Electric, Bendix, Chance Vought, Western Union, Convair and Sperry Rand.

This recognition from major companies results from Dresser Electronics' long experience and technical knowledge in designing and building highly reliable electronic components for scores of military, industrial and commercial applications.

To readers who require high reliability electronic components and subsystems, we would welcome the opportunity to show how Dresser Electronics can meet your needs.







TYPICAL MAGNETIC COMPONENTS AND SUBSYSTEMS BY DRESSER ELECTRONICS

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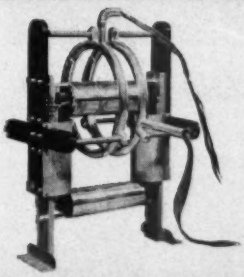
Miniaturized Transistor Transformers

Wave Filters



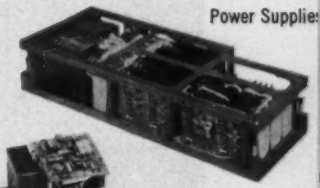
Special Power Transformers

Space Saver Audio Transformers

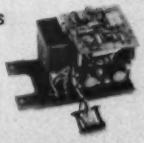
Commercial Grade Transformers

Delay Lines

Voltage Regulators



Power Supplies



Converters

ONE OF THE DRESSER INDUSTRIES

Dresser Electronics

HST DIVISIO

555 North Fifth Street — Garland, Texas — Dallas phone RAndway 3-5111

STATEMENT OF CONDITION

at the close of business June 30, 1961

ASSETS

Cash on Hand and Due from Banks		$256,196,806.65
United States Government Obligations	$129,144,310.45	
Public Housing Authority Obligations (Fully Guaranteed)	2,291,317.53	
State, County, and Municipal Bonds	31,020,257.74	162,455,885.72
Other Bonds		4,506,661.63
Stock in Federal Reserve Bank		1,800,000.00
Loans and Discounts		484,767,466.43
Income Accrued		4,219,828.38
Letters of Credit and Acceptances		6,946,239.88
Banking House and Equipment		7,660,893.38
Other Assets		2,739,105.84
		$931,292,887.91

LIABILITIES

Capital Stock	$ 26,000,000.00	
Surplus Fund	34,000,000.00	
Undivided Profits	11,740,307.86	$ 71,740,307.86
Reserved for Contingencies		9,684,507.14
Reserved for Taxes, Etc.		6,594,619.92
Deferred Income		2,436,113.76
Letters of Credit and Acceptances		6,946,239.88
DEPOSITS:		
Individual	$579,497,362.45	
Banks	217,267,108.08	
U. S. Government	37,126,628.82	833,891,099.35
		$931,292,887.91

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Every two minutes a plane takes off or lands at Dallas' Love Field. Aboard many of these aircraft, *First*men are carrying information to businessmen throughout the nation — facts about the fast-moving Dallas market, news of special First services. 21,000 planes, moving in and out of Love Field each month, symbolize the dynamic business climate in Dallas... THE CITY WITH GET-UP-AND-GROW!

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DALE MILLER'S

WASHINGTON REPORT

The Conservative Tide

Washington is a community that is acutely sensitive to political change, its experienced observers systematically interpreting the vagaries of the body politic with the same objectivity of a diagnostician examining a familiar patient, and their composite interpretation today suggests strongly that a conservative trend is in evidence throughout the country. It goes without saying that almost any kind of interpretation of political conditions is readily available in Washington, inasmuch as both parties have their professional pointers with pride and viewers with alarm, who can magnify or minimize with equal adroitness as befits each circumstance; but after partisanship is routinely sifted out (by, for instance, any omniscient denizen of the Press Club Bar), the residue of reality is subject to more unbiased analysis. And this analysis supports the impression among the non-political observers that conservatism is gaining some strength and momentum generally throughout the nation.

There are some respectable dissenters to this view, to be sure, and it must be acknowledged that this impression of a conservative trend is more extrasensory than factual, since little tangible evidence is available to support it. Nothing has really happened around the country in recent months to give it substance, and that admission is made despite the election of a Republican Senator from Texas. Though the Republicans ballooned that event to proportions of grandeur, and the Democrats pooh-poohed it as the nadir of trivia, the non-political observers here, who couldn't care less about the tub-thumpers of either party, took little time in dismissing the episode as relatively unimportant. In their view the smallness of the vote and the similarity of the political philosophies of the two candidates divested the campaign of any real meaning and rendered the result more symbolic than significant.

So there is little that is truly evidential to support the impression of a conservative trend — and, indeed, the manner in which the Kennedy program is now rolling along on Capitol Hill would seem to negate it, anyway — yet the view is nonetheless persistently held in many responsible quarters. It is virtually taken for granted by most of the veteran political observers, for example, that the Republicans will pick up seats in both the House and Senate in the 1962 Congressional elections — not enough to control either body, of course, but enough to reduce the Democratic majorities appreciably. This speculation is general in Washington, even though the first session of the new Congress has not yet run its course, and the next general election is still considerably more than a year away.

If there is indeed a conservative tide flowing across the nation, it could be presumed that conservative leaders here in Washington are exultant. But are they? It would be foolish to suggest that they are not gratified, since they have striven for years for just such a resurgence of their political ideology, yet the enthusiasms of many of them are being tempered by apprehensions. They are perceiving signs that the tide may be running uncontrolled, sweeping destructively across their own carefully cultivated fields as well as against the bastions of their political enemies. There is evidence of wrath and resentment in the conservative drive against entrenched political practices, but there is evidence, too, that the emotionalism is undisciplined, enveloping friend and foe alike into a common target for attack.

This curious situation is apparent in the predicaments involving a number of members of the Texas Delegation in Congress, and as examples I can cite the cases of two of them, both extremely conservative Democrats. One of them is so strongly entrenched in his district that he probably could run without serious opposition for years to come, yet he is now making no secret of a temptation to retire. He is merely disgusted. Though his political philosophy has been characterized by the AFL-CIO as being something to the right of King George III, he has received pounds of caustic mail, much of it abusive of him personally, evidently just because he has happened to be around while all these sinister things have been going on. The fact that he has fought valiantly against liberal measures for years seems somehow to have become obscured and forgotten, even by many who have professed to be his political friends.

The case of the other Congressman is much the same as that of his colleague. He, too, is a staunch conservative, with a voting record that the liberals consider revolting. The only thing that differentiates his plight from that of his friend in the Delegation is that he is eager to continue his political career, yet he is fearful, and understandably so, of the consequences of this wholly incomprehensible attack from his conservative constituents. Every liberal program that they are inveighing against he has been voting against for years. He has long been an anathema to the political radicals, yet here he is, now suffering the maledictions of his own kind, apparently just because he is here.

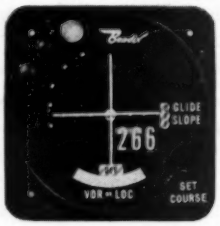
Thunder on the Right: Conservatism seems on the upsurge, but must avoid endangering its own.

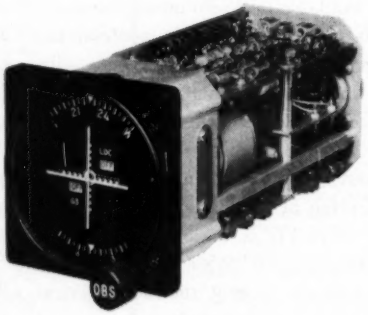
The anomaly in these situations is that there is virtually no partisanship involved. Both Congressional districts are heavily conservative and heavily Democratic, and neither incumbent would experience any particular trouble with either a liberal or a Republican opponent. But each could be replaced by some other conservative Democrat, and such a substitution would make no sense whatever, because it would sacrifice the precious political influence that is acquirable only through seniority. It is this unthinking, unreasoning characteristic of the conservative crusade that bodes trouble for the conservative cause. One could wish for an effective resurgence of conservatism in our political life, but a wish will likely be the extent of it unless some discipline can be invoked and some discrimination practiced. The conservatives need first to learn what the organized liberal minorities have known for a long time — how to distinguish, politically, between enemies and friends.

JET AGE INSTRUMENTS

FROM OPERATIONAL CONCEPT TO PRODUCTION QUANTITIES

EEE and its totally owned subsidiary Pan-Air Electronics Corp. furnish radio and related flight instruments and cockpit control equipment to airlines, leading equipment manufacturers, airframe companies and others in the major world markets.





ELECTRONIC EQUIPMENT ENGINEERING, INC.

2648 BRENNER DRIVE • P. O. BOX 13194 • DALLAS 20, TEXAS • FLeetwood 7-6307

PAN-AIR ELECTRONICS CORP.

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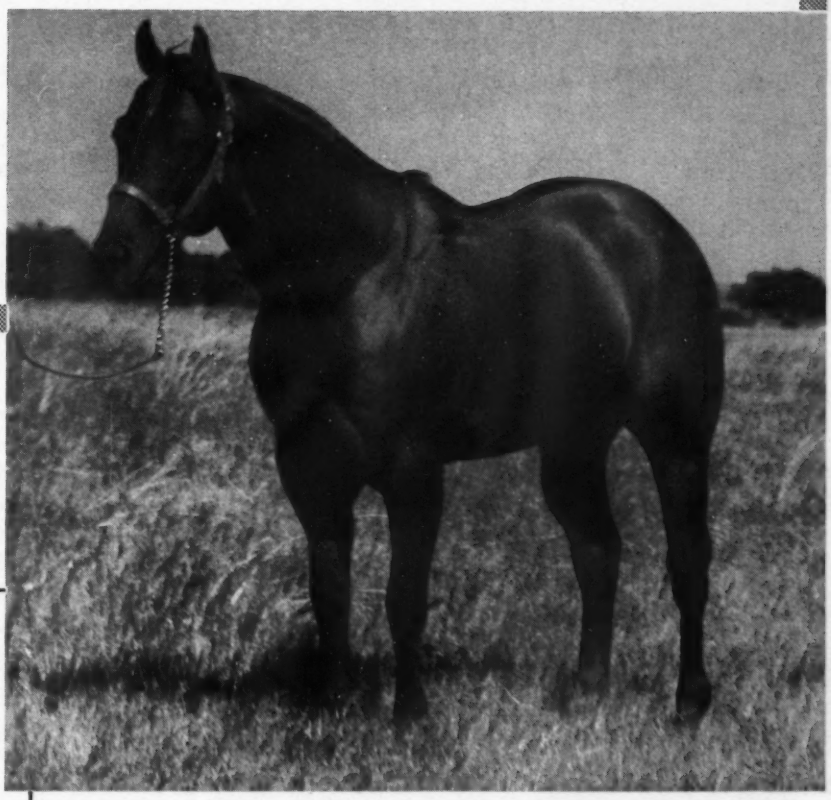

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Reg. QUARTER HORSE SALE

Saturday, AUGUST 26 — 1 P.M.

featuring

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- 10 Mares with Colts at side and bred back
- 15 Mares bred to outstanding stallions of the nation
- 10 Yearling Fillies
- 5 Yearling Studs

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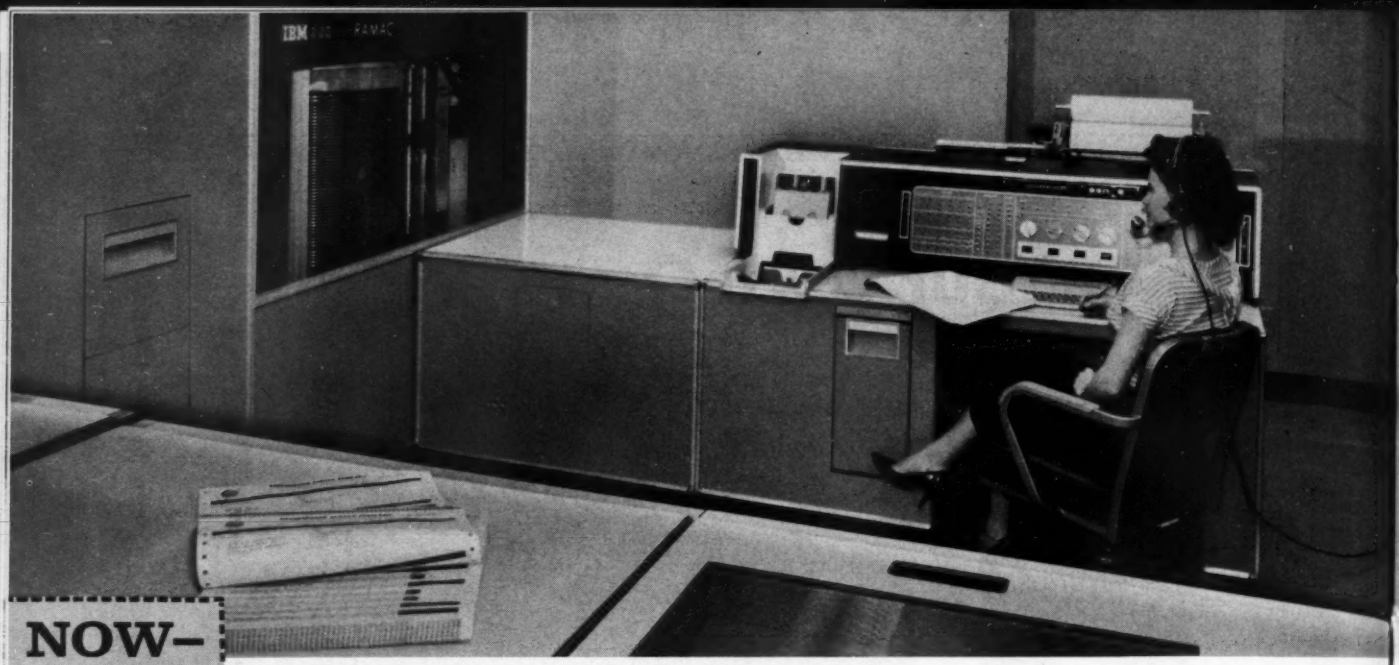

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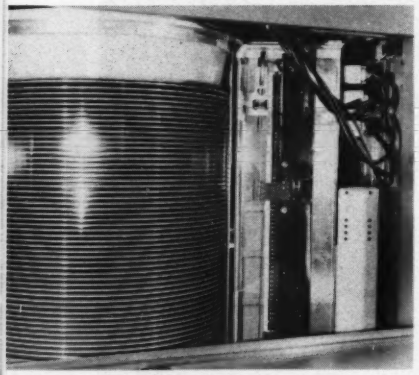

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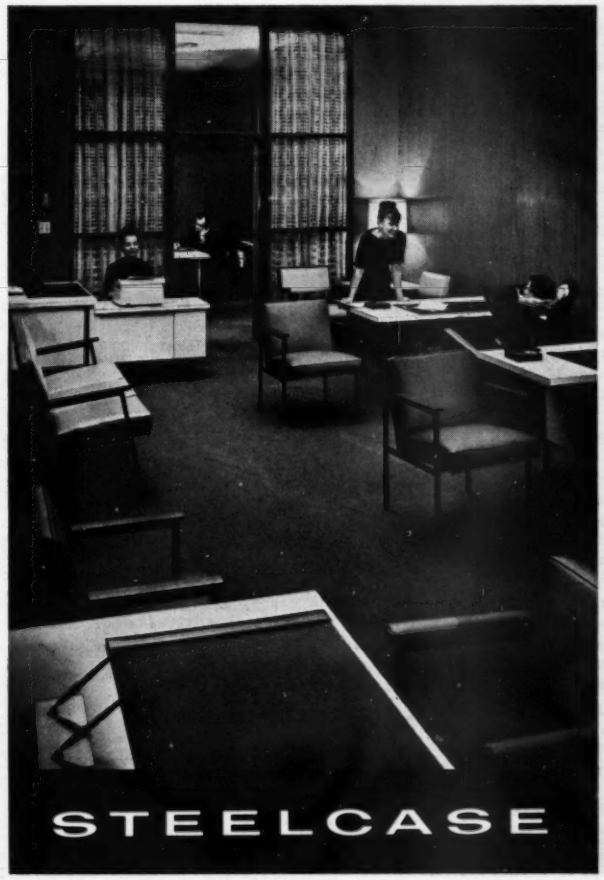

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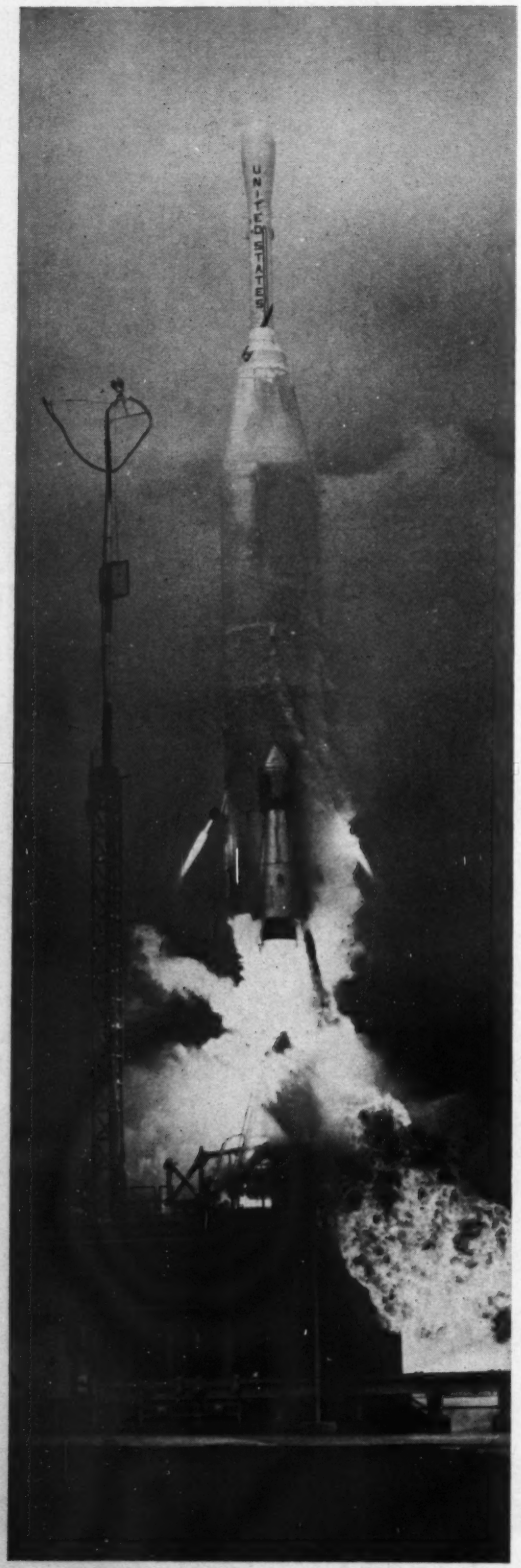

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516 S. Central Expressway
Dallas, Texas

Aymond, Edward F. Co.
3915 Lemmon Ave.
Dallas 19, Texas

Barnes, Arnold Co.
3603 Lemmon
Dallas 19, Texas

Bellew, Dick Sales Co.
314 Melrose
El Dorado, Arkansas

Berthold Sales Co.
4411 Maple Avenue
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Branum Co., The
P. O. Box 14348
Dallas 34, Texas

Brown, K. O. & Co.
8400 Westchester Drive
Dallas 25, Texas

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Corry, Hal F. Co. Inc.
6315 Hillcrest Ave.
Dallas 5, Texas

Crockett Sales Co., The
2204 Griffin
Dallas 32, Texas

Elder, John W. Co.
Box 3395
Tulsa, Oklahoma

Gross, Fred & Co.
P. O. Box 1926,
2651 Brenner Dr.
Dallas 21, Texas

Guenther, John B. Co.
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Houston, Texas

Koch Engineering & Sales Co.
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Dallas 6, Texas

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6170 Sherry Lane
Dallas 25, Texas

Lucas, Charles Sales Co.
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Lund & Co.
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Maynard Sales Co.
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Nesbitt, Robert E. Co.
1925 Cedar Springs
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Packard Associates
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Peck, Gordon V. Co., The
130 Casa Linda Plaza
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Schoonmaker, J. Y. Co., Inc.
5328 Redfield Ave.
(P.O. Box 35266)
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273 Meadows Bldg.
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2509 Sherwood Lane
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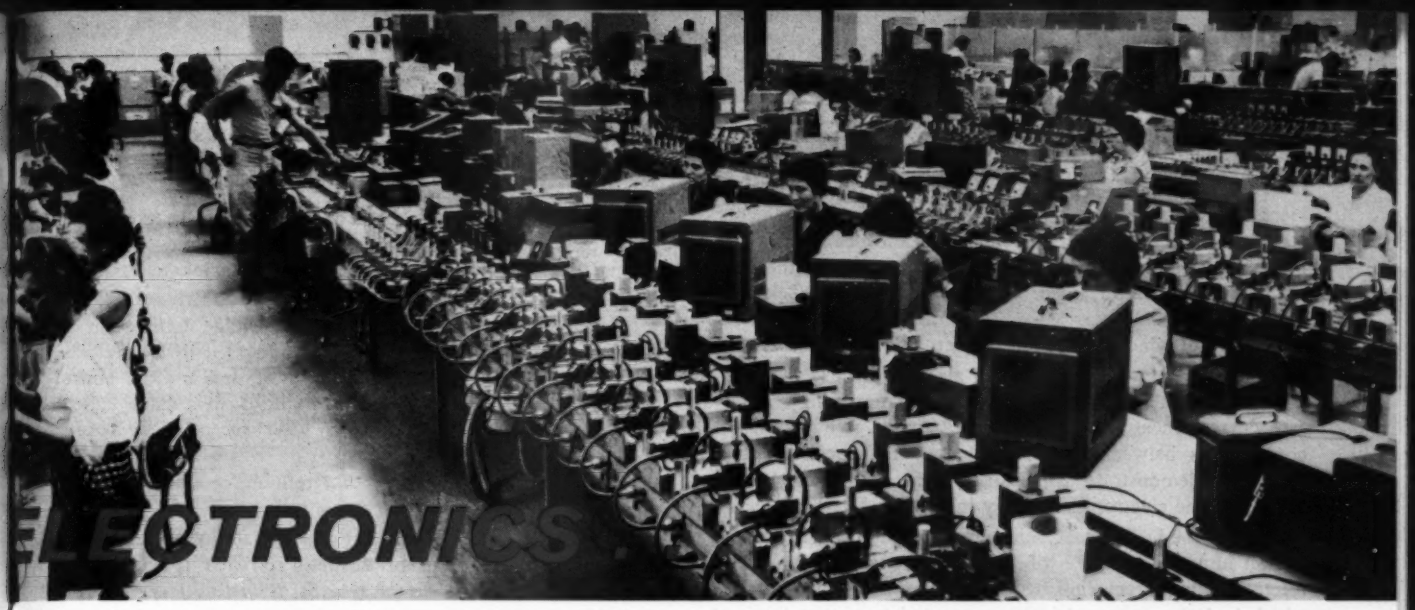


A Dynamic New Force in the Dallas Economy

By Hal Dawson

Products worth over a quarter-billion dollars . . . employment of almost 17,000 . . . total payroll approaching a hundred million dollars . . . and growing almost too fast to measure.

This is the electronics industry in Metropolitan Dallas today.

While huge Texas Instruments Incorporated, one of the national giants of the electronics industry, accounts for some 65% of the total Dallas employment in electronics, there are some 40 other electronic manufacturers in the Dallas area, with additions to this roll being continually announced. Included in this list are such important national firms as Collins Radio and the Ling-Temco-Vought group, which includes the activities of Continental Electronics, Vought Electronics, Temco Electronics and Electron Corporation.

The dozens of smaller manufacturers, the electronics distributors and the related firms in this rapidly expanding field are equally important to the Dallas economy, for they present a complete picture of a developing industry.

Indeed, the diversity of products and markets within the Dallas electronics industry is one of its strengths.

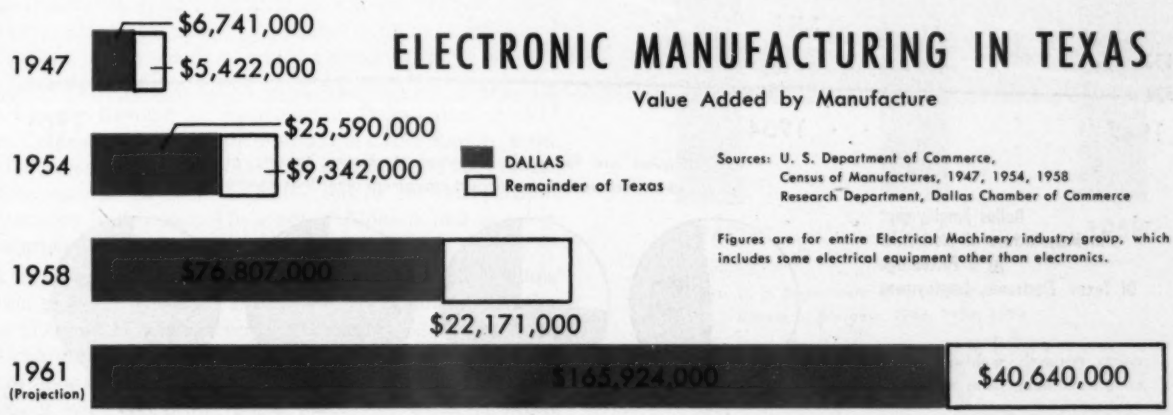
Electronics products produced in Dallas in 1961 will have a total value of $263,372,000, according to an estimate made by the Research Department of the Dallas Chamber of Commerce. This estimate is a 1961 projection, based on data from the 1958 Census of Manufactures. The Chamber's research indicates the 1961 value added by manufacture will amount to $165,924,000.

Growth of the Dallas electronics industry has been little short of sensational, with employment more than doubling between 1958 and 1961. The 1958 Census of Manufactures reported total employment in electrical machinery manufacturing in the Dallas Metropolitan Area at 7,758. The Texas Employment Commission reports the comparable total today is 16,760 — a 216% increase in only three years.

It would be well to note at this point that all data for the electronics industry must include the entire Electrical Machinery industry group, since the Standard Industrial Code does not break out a separate electronics category. At the same time, however, the statistics do not include electronics activities of predominantly aircraft/missile firms. The Standard Industrial Code, developed by the U. S. Bureau of the Budget, is used by the Census Bureau and all other sources of data.

The statistical difficulty stems primarily from the fact that electronics in such a relatively new and still rapidly developing industry that it is impossible to measure exactly.

A concise definition of the industry is equally difficult. In its strictest sense, electronics is the branch of physics that deals



with the "behavior of electrons," but in common usage the term is called on to describe an industry that embraces many research/development/manufacturing activities. Electrical devices for aero-space vehicles, for communication instruments, for automation equipment all come under the electronics heading. The layman may think of electronics in terms of the transistor or a similar tiny piece of equipment, but the field also includes huge radarscopes and giant million-volt radio transmitters, all of which, incidentally, are manufactured in Dallas.

While the tremendous growth of electronics in Dallas obviously prevents data from the 1958 Census from being an accurate current measure of the industry today, it is useful for comparisons between Dallas and other Southwestern cities. The data demonstrate conclusively that Dallas completely dominates the electronics industry in the Southwest.

In 1947, the Dallas electronics employment of 832 accounted for an impressive 42.8% of the total Texas employment in electronics manufacturing. By 1961, the Dallas employment, which had risen above 16,000, amounted to almost 80% of the Texas Electronics employment.

The second city in the Southwest in electronics manufacturing showed nothing like the growth of Dallas. In fact, based on data from the Texas Employment Commission, this metropolitan area (Houston) actually suffered a decline between the 1958 Census of Manufactures and 1961. In 1947, when Dallas electronics employment was 832, the second city had 520. Today, with the Dallas workers numbering over 16,000, Houston has slightly more than 1,100.

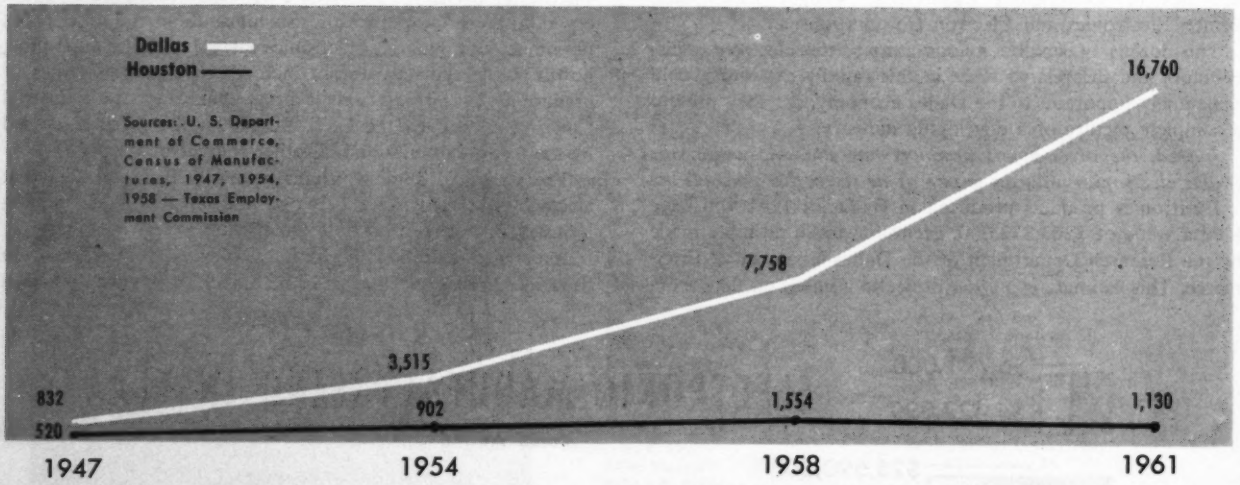
No other Southwestern area begins to compare even with Houston. Fort Worth has only some 700 electronics manufacturing employees and the entire state of Oklahoma reports only 2,132.

In value added by manufacture the Dallas domination is similarly impressive. In 1947 the value added in Dallas was only $6.7 million, but this was 55% of that for the entire state. By the 1958 Census, however. the Dallas value added had grown to $76.8 million, which was 78% of all of Texas. The second city in value added again was Houston, but in 1958 this area reported only $16.8 million, or scarcely a fifth of that of Dallas.

In wholesale sales of electrical goods, Dallas similarly dominates. The 1958 Census of Business reported 198 establishments in Dallas with annual sales of $320 million. Houston had 172 establishments, but their annual sales totaled only $188 million. No other city had more than $57 million in sales. This data too, however, includes the entire Electrical Machinery industry group, which includes electrical equipment other than electronics. Because of Dallas' important position as a distribution center, the non-electronics equipment included in the wholesale sales data is probably quite sizeable.

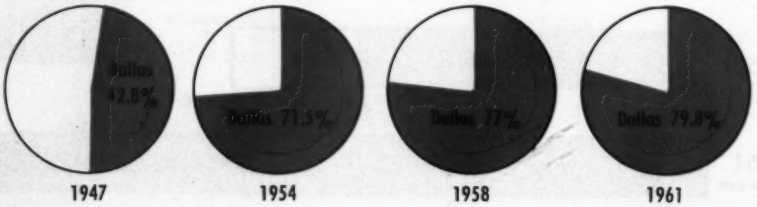
DALLAS DOMINATES ELECTRONIC MANUFACTURING IN THE SOUTHWEST

Two Leading Southwest Areas in Employment, Manufacturing of Electronics



Figures are for entire Electrical Machinery industry group, which includes some electrical equipment other than electronics.

Dallas Employment In Manufacture of Electronics As a Percentage Of Texas' Electronics Employment



The electronics industry plays an important role in the Dallas economy today, and each day that role grows in importance. Total current payroll of the industry's almost 17,000 employees here is estimated at $96,370,000 by the Dallas Chamber, and the figure continues to increase.

Despite the stature of the Dallas electronics industry, it is still a relatively minor portion of Dallas' total manufacturing activity, even though its employment of 17.4% of all Dallas factory workers makes it the largest single industry in the area. Because of the diversified nature of Dallas manufacturing, however, even the spectacular growth of electronics does not threaten to put Dallas in the position of many cities who have too many eggs in a single industrial basket.

Ranking close behind electronics employment in the latest report of the Texas Employment Commission are Food & Kindred Products, with 13,920 employees and Transportation Equipment (Including Aircraft), 13,520.

The rapid growth of the electronics industry — far faster than the growth of Dallas manufacturing itself — is clearly shown by its percentages of total Dallas manufacturing employment. The 1947 Census reported only 2.1% of Dallas factory workers in the electrical machinery category, and in 1954 the figure was only 4.8%. The 1958 Census showed 8.1% of manufacturing employment in electronics, but by 1961 this percentage had doubled again, to 17.4%.

Since 1947, while Dallas manufacturing employment was growing 2½ times, from 38,828 to 97,570, electronics employment was increasing 20 times.

The growth from 1958 to 1961 alone — from 7,700 to almost 17,000 in actual number and from 8.1% to 17.4% in percentage of manufacturing employees — offers vivid proof of the importance of this industry to the Dallas economy, for it was during this same period that employment in the aircraft industry declined by over 15,000. Indeed, the growth of the electronics industry in Dallas did much to keep employment rising in Dallas during the recessions of 1958 and 1960.

The early history of the electronics industry in Dallas is basically the history of Texas Instruments Incorporated, told elsewhere in this magazine. This firm, which rose from the 487th largest industrial firm in the nation in 1957 to the 206th largest in sales in 1960, has an almost unbelievable growth story. In 1956, its sales were $45 million; by 1960 the sales had been increased to $232 million. In employment, TI rose during this period from 4,200 employees to 17,000, with 11,000 of these in Dallas.

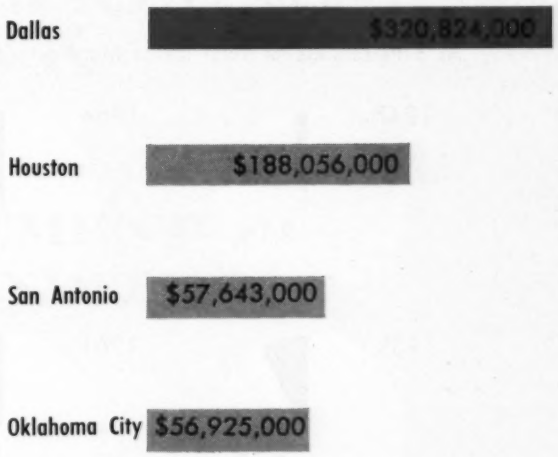
While officials of TI are hesitant to boast of their company's tremendous success or to make claims of future growth, others in the industry forecast continuing growth and expansion. The company spends lavishly for research and development — $38 million in 1960 alone — and is diversifying both horizontally and vertically.

A big step forward for electronics in Dallas came in 1952 when Collins Radio Company, founded in Cedar Rapids, Iowa, in 1933, organized its Texas Division in Dallas and later placed its International Division in Dallas and its subsidiary Alpha Corporation in this area. The story of Alpha is told in a separate article in this issue.

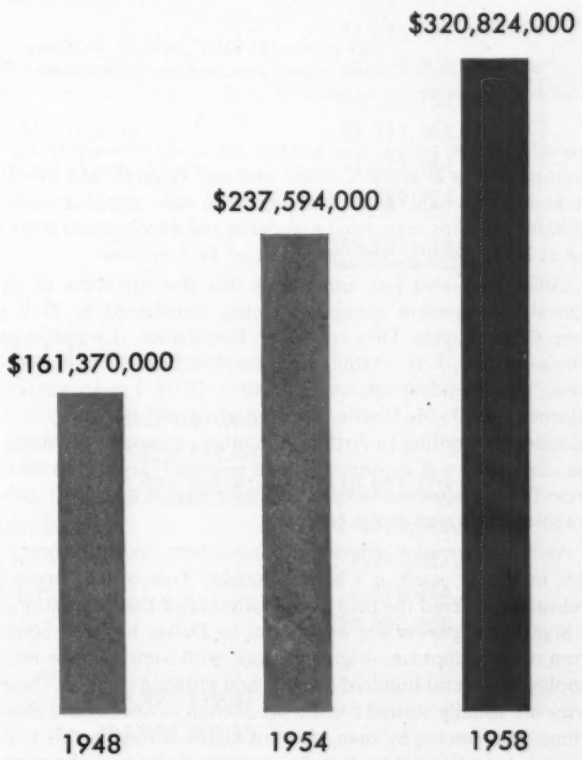
A number of significant developments highlight Collins' current growth. Late last year the company began construction on a $1.8 million manufacturing building on its 200-acre site at Richardson. The new building will contain 117,000 square feet of floor space and will house manufacturing and assembly functions with supporting office space and cafeteria. More

Wholesale Sale Of Electronics

Leading Southwestern Cities — 1958

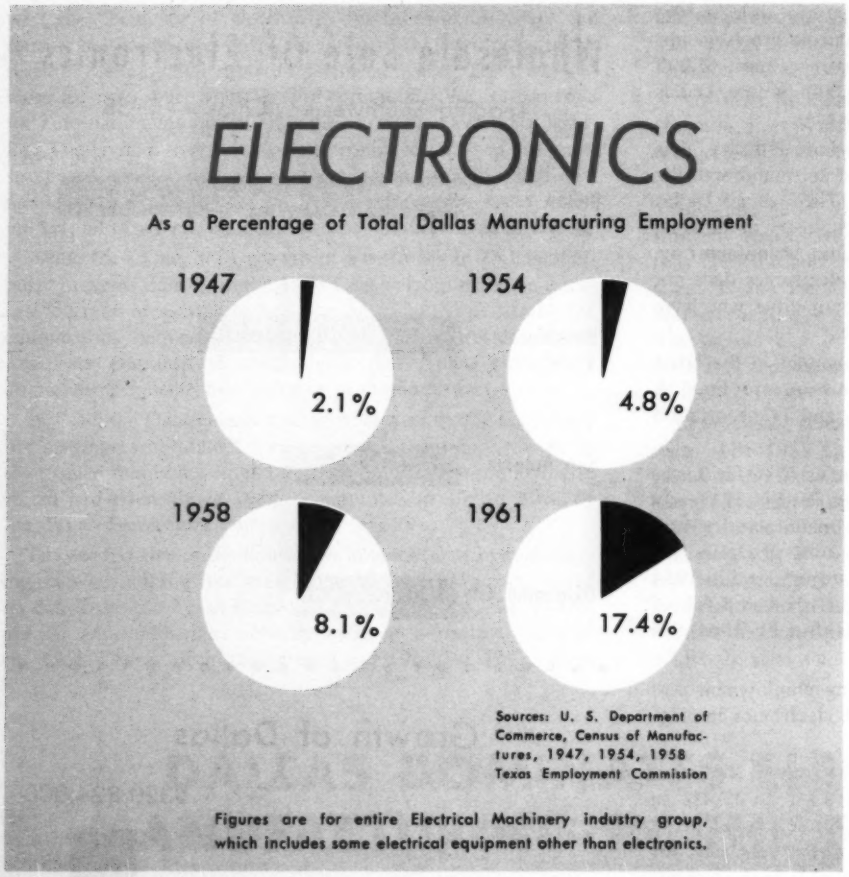


Growth of Dallas



Sources: U. S. Department of Commerce
Census of Business, 1948, 1954, 1958

Figures are for entire Electrical Machinery industry group, which includes electrical equipment other than electronics.



recently, construction was started on a 22,000-square-foot building that will house Collins' antenna research and development. This additional building will cost approximately $500,000. Collins completed a research and development building at Richardson in 1957 at a cost of $1.7 million.

Collins has also just announced that five members of its central management group are being transferred to Dallas from Cedar Rapids. They are W. W. Roodhouse, vice president administration; J. B. Tuthill, vice president finance; E. A. Williams, vice president operations control; D. H. Foster, general attorney, and J. M. Haerle, director of advertising and public relations. According to Arthur A. Collins, company president, the executives will continue to hold responsibility within their areas for management policies in Cedar Rapids and other geographical locations of the company.

As the electronics industry expanded here, existing companies in Dallas, such as Chance Vought, Temco and Dresser Industries, entered the field as they diversified their operations.

Significant growth for electronics in Dallas has also come from many companies originated here, with some of these now employing several hundred persons and growing rapidly. These firms are usually started for the production of specialized electronic components by men who are highly skilled in this particular electronics specialty. An example is one of the most recently announced, Hunt Electronics Company, which will be located in a 15,000-square-foot building at 2617 Andjon Drive.

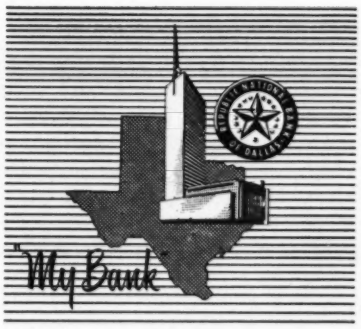
All five of the company's management personnel, R. K. Davis, R. B. Hoff, J. L. Hutson, J. W. English and E. N. Kile, formerly held positions with one of the larger area electronics firms. They decided to form their own company, however, and received financial backing from members of the H. L. Hunt family. Production in their new plant is scheduled to begin in October.

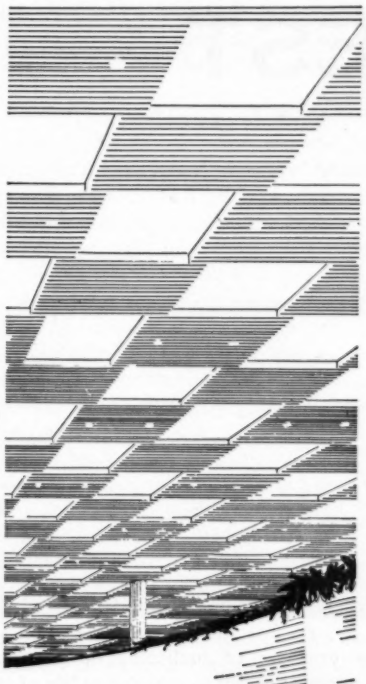
With Texas Instruments and Collins continuing to grow, with the Ling-Temco-Vought merger offering great promise and with the new companies forming and expanding, the future in electronics for Dallas is bright indeed. This gives Dallas tremendous advantages over the other areas in many respects. Industrial leaders forecast great national growth in electronics, for not only is electronics a tremendous growth industry in itself but it is an integral part of such other growth industries as aero-space, communications and automation. It is only natural to assume that — all things else being equal — Dallas will get more than its share of this expansion because of its commanding position today.

Perhaps equally important in the overall picture is the fact that the electronics firms in Dallas, with their highly skilled scientists and engineers, make Dallas a real space-age center. With today's rapid technological progress continuing and with electronics becoming a part of so many different fields, the area with technological know-how will be where the new firms will locate and where current firms will expand.

A major effort to secure and insure these advantages for Dallas is the Graduate Research Center, described fully in an article by its president, Lloyd V. Berkner, elsewhere in this issue. Conceived by a group headed by J. Erik Jonsson, board chairman of Texas Instruments, this Center could mean as much to the future of Dallas as any single development.

This future is indeed bright for Dallas, but no field offers more promise to the area than electronics.





REPUBLIC NATIONAL BANK OF DALLAS

STATEMENT OF CONDITION

June 30, 1961

RESOURCES

Cash and Due From Banks	$ 270,792,642.24
U. S. Government Obligations, Direct and Fully Guaranteed	173,215,307.54
State, Municipal and Other Securities	16,075,271.02
Stock in Federal Reserve Bank	3,150,000.00
Loans and Discounts	586,523,153.05
Bank Building and Equipment	23,017,465.88
Customers' Liability on Acceptances	1,818,944.28
Other Assets	3,739,194.03
TOTAL	$1,078,331,978.04

LIABILITIES

Capital	$ 48,279,876.00	
Surplus	56,720,124.00	
Undivided Profits	5,921,208.81	$ 110,921,208.81
Reserve for Contingencies		14,768,040.91
Reserve for Taxes, et cetera		7,912,027.23
Acceptances — Outstanding		1,818,944.28
Federal Funds Purchased		20,000,000.00
Deposits:		
Individual	$696,897,319.57	
Banks	185,984,329.80	
U. S. Government	40,030,107.44	922,911,756.81
TOTAL		$1,078,331,978.04

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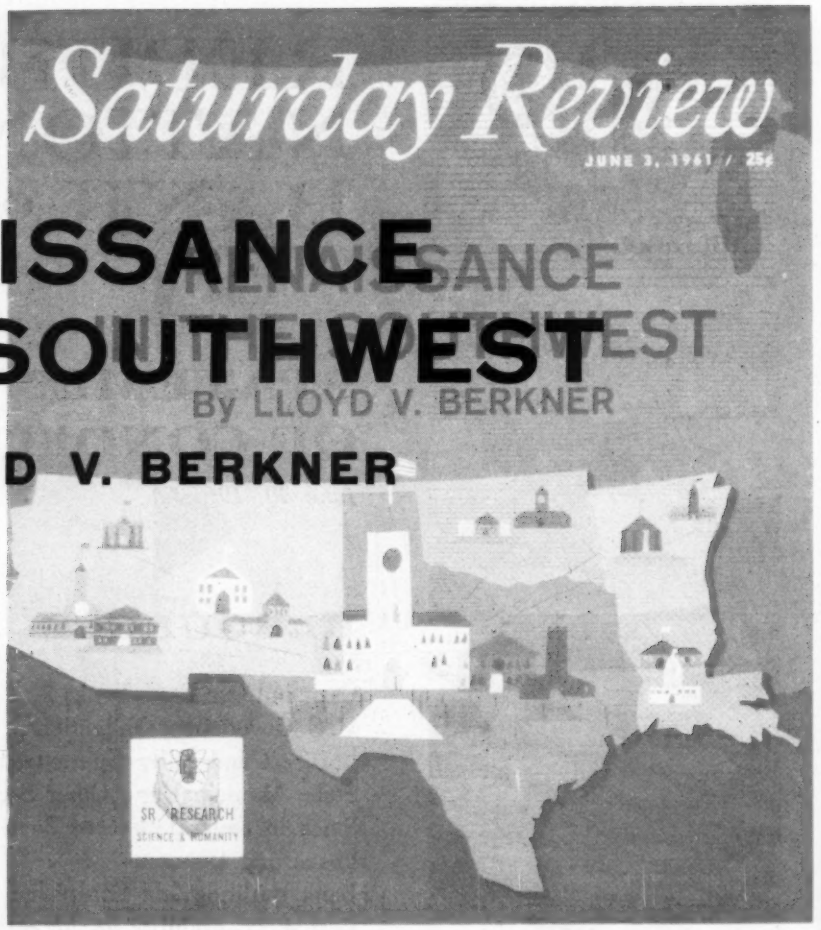
RENAISSANCE IN THE SOUTHWEST

By LLOYD V. BERKNER



This article, by the president of the Graduate Research Center, is reprinted from *Saturday Review*.

PRIOR to the year 1930, graduate education was required primarily to satisfy the intellectual needs of the scholar and the teacher who would explore abstruse nooks of human knowledge. Even in the 1930's, the impact of the doctor of learning on the affairs of the community and the nation was remote. A few such men, dubbed eggheads, were noticeable in Franklin D. Roosevelt's administration to the amusement of the nation, and some few scientists were recognized as contributors of ideas that had benefited mankind generally. But as late as the 1930's, the main stream of thought in industry, defense, and government flowed in the same "practical" channel it had followed through the ages.

But the makings of a mighty change were at hand. The principles of relativity and quantum mechanics, known for a generation, slowly absorbed and synthesized scattered ideas of the preceding three centuries of objective science to give us an entirely new grasp of physical reality. The new philosophy invaded every field of human endeavor. In World War II man demonstrated power to command nature to do things that would have been incomprehensible before. And in the ensuing decade the atomic bomb, the jet plane, the rocket, the electronic computer, and space flight have become commonplace.

These explosive developments have set the stage for even more spectacular developments in the 1960s. Immediately ahead of us, in clear sight, are unlimited and cheap long-distance communication, entirely new sources of electric power derived more efficiently without rotating machinery, structural materials radically different from those we have depended on since Babylonian times, planetary exploration with its implications of opportunity to examine life under a radically different evolutionary ecology, and a biochemical/mechanical understanding of all living organisms including man.

There is hardly anything that man has done that the new science cannot tell us how to do better. We are, therefore, in the beginning of a revolution in the character of industry. Technology emergent from the new science is replacing the primitive empirical knowledge of the "practical" man. Before, the need for men of the doctoral level of intellectual development was not apparent in day-to-day life of the community; the requirement for men of great intellectual skill has become obvious to all since the triumphant Russian launching of Sputnik I on October 4, 1957. The sudden appointment of a science advisor to the President of the United States signified the realization that the old "practical" approach was no longer sufficient for a people's safety and welfare.

I would emphasize that this demand for men at the post-doctoral level is not just a whim of competitive industry for more power. The need reflects a change of very deep social significance. As industry moves rapidly into the new technological phase, older industries that continue to depend on the practical experience of earlier centuries become shallow and ineffective. Those industries must gradually, and sometimes not so gradually, give way to new processes, new materials, new methods, new products. It is significant that more than thirty "blue chips" of thirty years ago have since disappeared from the stock market.

Naturally, the new industry springs up in the geographic regions where men of the most suitable intellectual backgrounds are available. As Dr. Ronald McFarlan, past president of the Institute of Radio Engineers, recently remarked:

"Large concentrations of able academic scientists and engineers placed in geographical proximity with their equally able industrial counterparts can produce very rapid economic growth in the areas concerned. One has only to look at the Boston-New York-Philadelphia electronic axis, or at its San Francisco-Los Angeles counterpart to substantiate this statement."

Another characteristic of the new industry bears on the problem of social change. Technological industry employs men of higher skills to supervise more efficient methods and processes. Consequently we hear of technological unemployment. I would make this point:

As the new technological industry takes over, the technological unemployment will become chronic and endemic in those geographical regions where education fails to develop new technological opportunities for employment.

With the population explosion massing people in the cities, only those regions will be economically healthy that have the intellectual power to exploit the new science and the consequent industry. Most certainly, those regions that fail intellectually will fail economically and become chronically poor and colonial to the intellectually advanced regions. This is the social certainty that the technological revolution of our century has made clear.

No longer is the doctor of learning a mere intellectual curiosity; his brains are essential to the economic and social health of the community. Every man who is not educated to the full extent of his creative ability is to the community a loss in terms of unemployment, of poverty, of human rights and lost opportunity. Higher learning therefore can no longer be solely an objective of the individual spirit. Education at the doctoral level of learning and higher now is a community necessity for all who have the capacity to achieve it.

Well, you may say, does this not degrade the very purpose of learning?

I think, on the contrary, the stature of learning is elevated by this new atmosphere for the intellect. Where man previously subsisted at a low level by elementary and brutal methods of the muscle, he is now challenged to make his brain his centre of living. The whole community must depend on scholarly accomplishment. To me, this seems the highest form of intellectual achievement.

The powerful flow of philosophic thought of our century attests to the advance of man's intellect in this new atmosphere. If, at the moment, man seems in deeper trouble than ever before, it is because the defects of his earlier philosophy, reflected in the mirror of more advanced learning, face him with his real alternatives.

Where does the vast region of the Southwest (and here I mean the states of Arizona, Arkansas, Louisiana, Oklahoma, New Mexico and Texas) fit in this new dynamism?

In the forty-eight United States, we produce about 9,000 Ph.D's annually, about 790 of those in engineering and about half the remainder in science. By regions, this total broke down as follows in 1957-58, the latest year for which figures are available.

DR. LLOYD BERKNER

Region	*Numbers*	*Percent*
Northeast	3299	39
North	3055	36
Far West	1257	14
Southeast	519	6
Southwest	417	5
	8547	100

About 4500 of these 9,000 Ph.D's, who must do our most significant scientific work, come from seven states:

State	*Number*	*Per million population*
New York	1299	84
California	845	81
Illinois	722	83
Massachusetts	577	127
Pennsylvania	468	43
Michigan	439	73
Indiana	415	85

These seven states produce, for each million of population, about eighty-two Ph.D's each year. The national average is forty-eight. The average for the six Southwestern states, I suppose because of their later emergence as states, is twenty-two. Here are the figures by states:

State	*Number*	*Per million population*
Texas	215	23
Louisiana	92	30
Oklahoma	71	31
New Mexico	16	19
Arkansas	14	8
Arizona	9	8

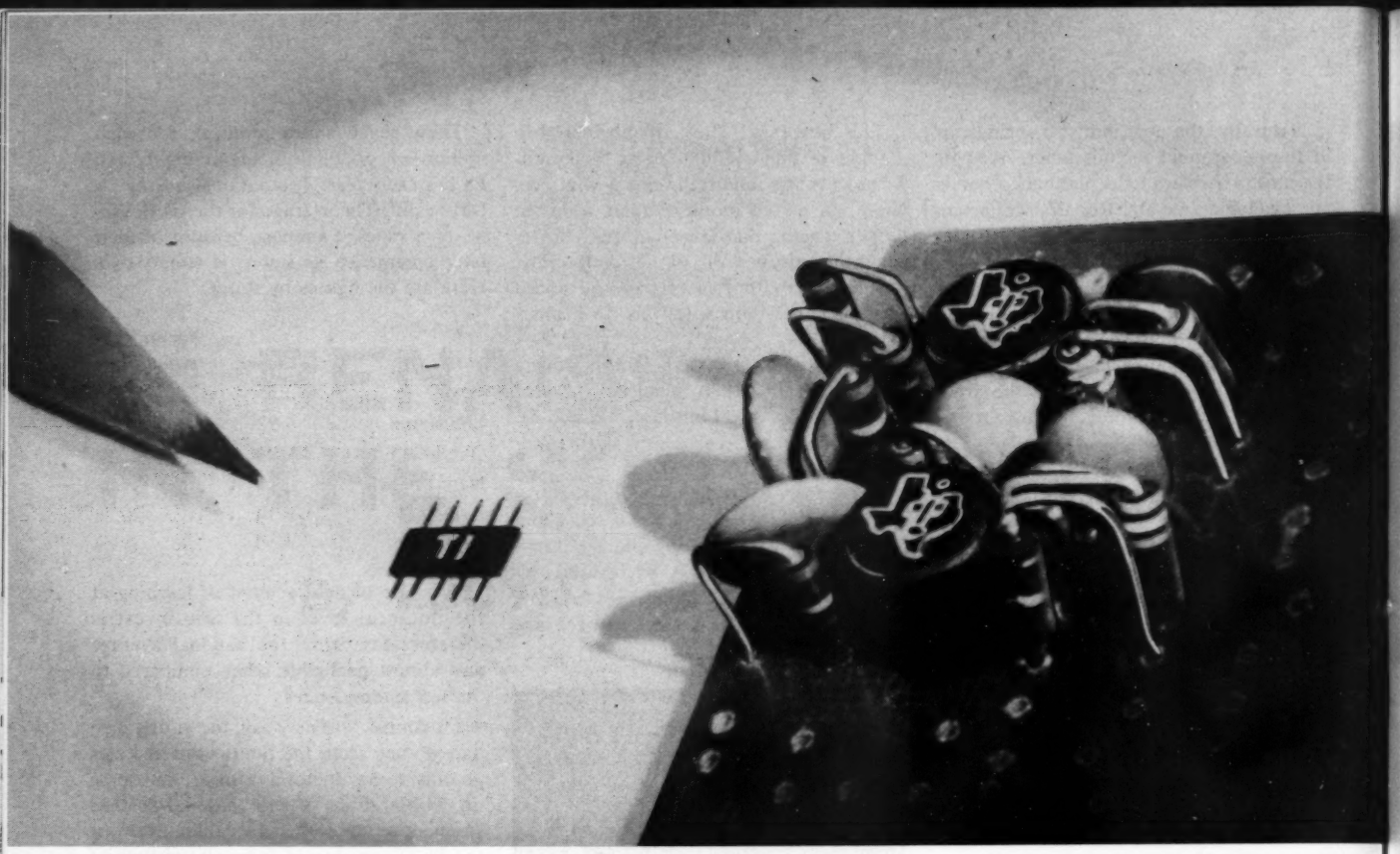
The rate of achievement of learning at the doctoral level in the Southwest is therefore far below the national average and almost negligible when compared to the ten leading states.

Of course, you may say, the young men and women from the Southwestern states go outside for doctoral training, and some do. But statistics of the National Science Foundation show that less than 1,000 of the Ph.D's graduated from all universities each year attend universities more than 500 miles from their homes. Other statistics of the National Research Council and of the National Science Foundation show that less than half as many intellectually qualified high school graduates from the Southwest reach the doctoral degree as do high school graduates in the Northeast, the North or the Far West. So we in the Southwest have a huge reservoir of talented young men and young women who could be trained to turn science to the advantage of the Southwest community.

Now graduate education is inconceivable without extensive opportunity for research. Yet modern research facilities are costly. The university must somehow find the funds. For it cannot escape the responsibility.

Already the deficiency in graduate education and research opportunity has a direct reflection in the industrial status of the Southwest. Recent studies with which I have been associated have found that several industrial research laboratories had considered coming to the Southwest and then located in the Northeast or Far West. One industrial leader concerned in this reversal explained: "The industry of the Southwest is becoming shallow for lack of a suitable scientific and intellectual climate." Five more industrial research activities have been about to locate elsewhere, but may reconsider if they see a general surgence of graduate activity in

(Continued on Page 56)



The tiny block at left, a Texas Instruments semiconductor network, performs the same circuit function as the already compact circuit shown at right, which has 16 components. The microminiature circuit is formed within a solid block of ultra pure silicon.

TEXAS INSTRUMENTS

A Dallas Success Story

Texas Instruments Incorporated represents one of the great success stories of Dallas. In just a few years it has grown to become one of the nation's largest firms and has become a towering giant in the electronics industry. Not only has this firm helped earn for Dallas a reputation as one of the world's leading electronics centers but it has proved that a company with plants and offices all over the world can be operated successfully from a Dallas headquarters.

Only 31 years old, TI is officially listed as an "international manufacturing and service organization engaged in commercializing new technologies in materials, electronics and the earth sciences."

With headquarters in Dallas, Texas, it employs more than 18,000 persons and its 1960 sales billed made it the 206th largest industrial company in the United States.

Texas Instruments operates through five relatively autonomous divisions whose products and services are of a high technological content.

Application of the earth sciences primarily in exploration for petroleum, but in the strategic security technologies of the nuclear and space age as well.

Development and manufacture of electronic systems and instrumentation for national defense and industry.

Application of materials knowledge beginning at the structure-of-matter level to develop, design and manufacture semiconductor devices and other electronic components.

Application of materials knowledge at the metallurgical level to produce such products as clad metals, motor controls and nuclear fuel elements and cores.

Texas Instruments plants are located in Dallas and Houston, Texas; Attleboro, Mass.; Versailles, Ky.; Bedford, England; Elizabeth and Finsbury, Australia; Almelo, Holland; Bonneville and Nice, France; Aversa, Italy; Buenos Aires, Argentina; and Mexico City, Mexico. Sales and operational offices are maintained in leading cities of the world.

Texas Instruments geophysical exploration crews operate on land and sea in all hemispheres under contract to major and leading independent oil companies.

The company was founded in 1930 as Geophysical Service Inc. It pioneered use of the reflection seismograph to search for subsurface structures favorable to the cumulation of oil or gas. Its operations have been international in scope almost from the start and its exploration efforts have preceded development of most of the free world's major oil provinces.

Present management control of the company dates from 1941.

During World War II, the company engaged in the development and manufacture of military equipment, especially magnetometers for antisubmarine warfare, while expanding its war-vital oil exploration activity.

Decision was made shortly after the war to broaden the base of the manufacturing activity and include military manufacturing as a permanent part of the com-

pany's industrial career. In implementing this decision, a Laboratory and Manufacturing division was formed in 1946 and this signaled the beginning of a period of rapid growth and expansion which still continues.

Sales for 1946 were $2,280,000 and employees numbered 554.

By 1951 both exploration and manufacturing activity had so increased that they were set up in separate corporations. The manufacturing unit became Texas Instruments Incorporated and Geophysical Service Inc. was established as a wholly-owned subsidiary.

Recognizing the great potentials of the transistor, Texas Instruments entered the semiconductor business in 1952 and thus added a third area to the company's activity. The first semiconductor devices were marketed the following year and a Central Research division was established to search out new technologies and deepen and broaden materials capabilities.

Another event of major significance to the company's future occurred during 1953. This was the merger of Intercontinental Rubber Company into Texas Instruments. Shortly before this took place, the company had engaged in its first long-term financing — a 10-year loan of $2,500,000 from the Equitable Life Assurance Society. Until then all capital in excess of that in hand when the company was purchased by the present management group in 1941 had come from building mortgages, bank loans, progress payments on government contracts, and advances from or stock sales to the original owners. The Equitable loan was instrumental in enabling Texas Instruments to complete the merger with Intercontinental Rubber. This company had been a successful war-time producer of natural guyule rubber. The merger brought sufficient new stockholders to permit the listing of Texas Instruments shares on the New York Stock Exchange, thus laying the foundation for financing the growth which was to follow.

Acquired during 1953 were Houston Technical Laboratories, Engineering Supply Company and the ocean-going vessel, "Sonic."

With Houston Technical Laboratories, the company added an important new product — the most successful precision gravity meter ever marketed — and means for manufacturing a broad line of seismograph equipment as well.

Engineering Supply was a small distributor of geophysical, electronic and industrial supplies throughout the Southwest owned by members of GSI's management group. It since has become an important distributor of Texas Instruments semiconductor devices and electronic components.

The Sonic was acquired as a means of expanding the company's land-based seismic exploration efforts to off-shore areas of the world. It was the first ship in a fleet of five with which the company currently is conducting marine seismic operations.

(Continued on Page 88)

TI Today in Dallas

- From June, 1958, to June, 1961, Texas Instruments employment in Dallas County increased from 4,665 to over 11,000.
- In 1958, one of every 20 Dallas County residents employed in manufacturing was a TI employee. In 1961, one of 8 Dallas County residents employed in manufacturing was a TI employee.
- In 1959, one of every 86 Dallas County residents employed in *any* category of employment was with TI. In May, 1961, one of every 37 Dallas County residents employed in *any* category of employment was with TI.
- In June, 1958, the Texas Instruments monthly payroll in Dallas County was $2,100,000. In June, 1961, it had more than doubled to $5,300,000 monthly.
- Since 1958 TI has added more than 800,000 square feet of floor space by construction of five new facilities on the company's 350-acre site on North Central Expressway. The site, within the city limits of Dallas, is 11 miles from the downtown area. TI has another principal manufacturing facility in Dallas — a plant at 6000 Lemmon, which has grown from its original size of 35,000 square feet in 1947 to its present size of 254,000 square feet.

This polished dome being inspected by a Texas Instruments craftsman represents a combination of technologies. The dome will be used as an infra red lens in a heat-seeking missile.

One Texas Instruments division designed and built this compact transistorized seismograph system; another uses it to conduct geophysical exploration in many remote regions.

The engineering building of Collins Radio Company's Texas Division is the home of the company's research activities.

Research In Dallas Electronics

The growth of any company in highly technological fields depends on the development of new and improved products. As witnessed by the growth of the electronics industry in Dallas—in 1947 there were 832 employees in the electrical machinery field whereas fourteen years later the combined employment records of two companies alone approach the 15,000 mark — development of new and improved products is the industry's specialty.

Texas Instruments deliberate policy of planned, profitable growth has been intimately related to continuing high levels of research, development and engineering activity, carried on as close to other product operations as possible. Each major product group has its own engineering and development group with full capabilities to handle any technical problem in its field of interest. These groups are supplemented by the Central Research Laboratories which conduct basic and long-range investigations of general interest to the company. The development and engineering group in each product activity receives technical contributions from the Central Research Laboratories and from the technical groups in other major product activities.

TI recognizes that new, fundamental scientific knowledge is as important a raw material as the tangible ingredients which go into a product. This knowledge, coupled with the imagination to foresee a customer's need, even before he recognizes the need, is the genesis of a new product, and often, an entirely new business.

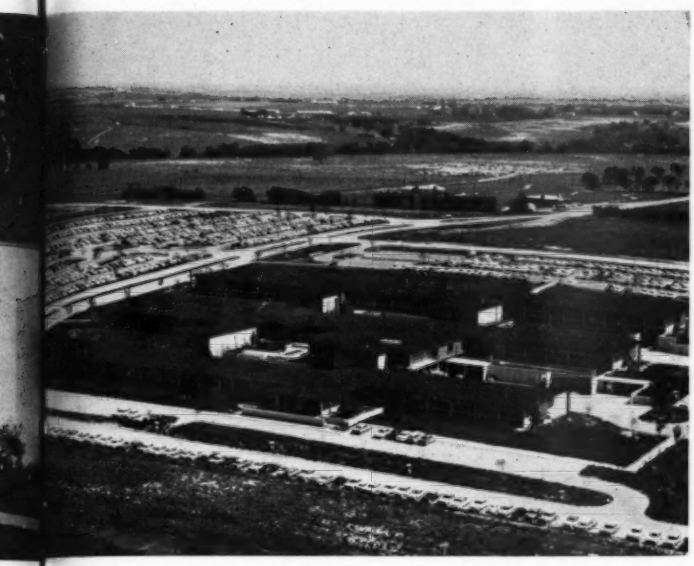
It is the job of TI's R. W. Olson, Vice President—Research & Engineering, to optimize the company's Total Technical Effort. This means determining the right amount, the right kind, the right quality, the right degree of completeness and the right timetable. By coordinating the efforts of the Central Research Laboratories with similar activities in product divisions the various projects are moved out of the high technical risk category, then out of the laboratories and into the product divisions as quickly as possible. Some of the people engaged in the early research phases frequently wish to participate in the final realization of commercial products resulting from their initial studies. Therefore, research personnel often accompany their projects when they are transferred to product divisions. This policy meets individual desires and helps to transfer knowledge and skills where they can be of critical importance in the effort to introduce new products in advance of competition.

To assure optimum communications and liaison within TI's complex of scientists and engineers, including nearly 100 Ph. D's., Vice President Olson calls together what is termed the Technical Coordinating Group. This is made up of the directors of research for TI's various divisions, the directors of the four autonomous research laboratories comprising Central Research Laboratories, and other personnel with administative and technical responsibilities. The 22-member Technical Coordinating Group meets monthly to review and establish current and long-range plans. Specific projects often are discussed in detail and facilities and personnel assignments closely analyzed. Basic research policy changes are made to anticipate changing needs. The group coordinates the activities of more than 1500 professional scientists and engineers, plus other technical people.

Much of the work in the Central Research Laboratories is devoted to major directed projects. These are aimed at the solution of critical problems in product areas where specific goals can be seen, and when solved, will permit TI to enter or continue in a field with high expectation of profit. A growing proportion of the CRL effort is in long-term exploratory projects. These are expected to discover and solve critical scientific and technical problems leading to advanced new technologies. A major aim is to develop a new technology so different from present ones that a new product division will be needed to commercialize it.

The management of Ling-Temco Electronics, Inc., recognizes fully the importance of research and development and a large share of the company's operations are devoted to improving current and developing new products.

Temco Electronics & Missiles Co., a subsidiary, for example, has more than 500 engineers in the Dallas area—and more than 60 per cent are working in research and development programs. The Corvus missile system has been one of the largest and most advanced r&d programs ever undertaken in this area. Temco Electronics Division r&d has introduced



The TI Central Research Laboratories are housed in a modern tri-level building at the company's Central Expressway site.

such products as READ (Radar Echo Augmentation Device) and the Temco Video Correlator. This division's scientists and engineers also are furthering the state of the art in such advanced fields as molecular electronics, which is providing the microminiature "thin film" electronic devices so necessary for superminiaturization.

R&D also must be credited for such new products as the Temco-matic, central control unit for coin-op machinery, and the compact Ling-Temco dishwasher.

Also among the area's largest r&d programs are the super-power (multi-megawatt) radar transmitters for the Air Force's BMEWS (Ballistic Missile Early Warning System) and the Army's Nike-Zeus, the only anti-ICBM system now being developed, produced by Continental Electronics Manufacturing Company, subsidiary.

Another large Continental r&d project was the 2-million-watt, VLF (very low frequency) "Voice of Polaris" installation in Cutler, Me. Recently completed a year ahead of schedule, this is "the world's most powerful radio station."

Continental also contributes to other research programs, with special purpose transmitters for nuclear research and radar telescopes. Experiments with the latter have included bouncing radar signals off Venus and tracking satellites. The era of space exploration from Earth stations is in its infancy.

R&D also brought forth the Ling Spectator television camera, the key to the low-cost TV systems produced in Richardson by the Electron Corporation, another Ling-Temco subsidiary.

Ling-Temco also has one operating unit—the Ling-Altec Research Division—which is devoted entirely to r&d. Located in Anaheim, this division has produced a long series of improvements in sound systems and components and in telephonic and other communication devices.

Ling Electronics Division, also in Anaheim, has taken a leading role in a corporate ASW program, producing amplifiers for Project Artemis, one of the largest ASW r&d programs ever undertaken by the Navy.

The Dallas area Ling-Temco operating units also are involved in the corporate ASW proposals.

R&D has contributed to every product Ling-Temco produces—and will contribute to every product of the future, in the conviction of the company's management. Sometimes the product is small, such as the "flicker tube" recently introduced by United Electronics of Newark, N. J., another Ling-Temco subsidiary. More often, it is a major system.

President James J. Ling has explained Ling-Temco's basic r&d philosophy in answer to questions about the company's apparent lack of interest in small electronic components. Mr. Ling said that 10 million dollars of r&d effort can produce a small component for which market limitations may rule out ever completely recouping the investment. Ten million dollars in systems r&d, on the other hand, can lead to one contract which will repay the r&d investment with profit, he said.

At Collins Radio Company, Texas Division, 25 per cent of expenditures and personnel are devoted to research. The Collins organization pioneered the development of practical Trans-horizon scatter communication, which provides voice, teletype, telegraph and data transmission by radio signals over distances of hundreds of miles. Collins also has led in hundreds of other electronic and communications advances, ranging from pure or basic research — development of original ideas, to applied research — directing basic data toward an end of usefulness, to research and development — applied research aimed toward a specific product.

One research activity in which Alpha Corporation, a Collins subsidiary, is presently engaged is space communications — studying the use of satellites for point-to-point communication. Another area of space work in which the company is engaged is providing the electronic systems in a station at Fairbanks, Alaska set up for the purpose of receiving data from orbiting satellites. A satellite, making recordings on video tape as it travels through space, relays this information by radio back to earth. There, the signal is converted into useable data.

The big wheels of research are turning throughout the Dallas electronic industry. And when they're turning with such speed in such a dynamic industry, big things are bound to continue to happen.

Electronics: A BRILLIANT

Electronics has been America's most dynamic growth industry for several years, and I can not foresee a leveling off in the near future. There may be a brief pause, occasionally, for the industry to catch its breath, but such an occasion would hardly be noticed. This is the age of electronics — a challenging era of change and advancing technology, keyed to electronics.

While the future for electronics in general is very bright, I feel the industry's growth potential in the Dallas area is even more exceptional. Dallas has developed into an electronics center in the past five years, and while our industry's growth locally has been very impressive I actually feel that we have just laid the groundwork for the big things ahead. Dallas has large and small electronics concerns, and I know many of the people connected with most of them. I have the greatest respect for these people, for their abilities, and for the technology they are pursuing in their particular operations. By knowing these people and what they are doing, it is with a great deal of confidence that I can forecast a future of growth and expansion for the electronics industry in Dallas.

I sincerely feel that Ling-Temco Electronics, Inc. and Chance Vought Corporation (which are scheduled to be combined into Ling-Temco-Vought Inc., on August 31) will make a most significant contribution to the growth of the industry in this area.

Dallas has several advantages in looking to growth of the electronics industry. The progress the local companies already have made has created a trained work force and depth in engineering talent, and these companies' success makes it easier to lure needed personnel from other areas when the Dallas area can not meet the demands.

The availability of facilities, or choice locations for the construction of facilities, is another feature we can cite. Add to these things the many desirable attributes of progressive Dallas, with its excellent schools, churches, city government and residential developments, and the long-range picture is indeed bright.

The term "electronics" covers a broad spectrum, from a tiny component to a gigantic system, for use in missiles, various types of communications and numerous other applications. LTV's electronics effort will be concentrated in the area of communications. As an illustration of the growth potential in this field of technology, I will cite a Dallas-based subsidiary of our company, Continental Electronics Manufacturing Company.

Continental is one of the foremost super-power electronics companies in the world, having designed and built the most powerful transmitters ever purchased by the U. S. Army, Navy and Air Force, and the U. S. Information Agency. Included are radar transmitters for the Ballistic Missile Early Warning System (BMEWS) and Nike-Zeus, the most powerful radar transmitters in the Free World capable of sending a signal thousands of miles; a 2,000,000-watt transmitter for the Navy's very low frequency radio station at Cutler, Me., that will provide communications with submerged submarines thousands of miles away, and called the "voice of the Polaris fleet;" and super power transmitters for Voice of America.

Continental, through its experience in

TUTURE FOR DALLAS

By James J. Ling

James J. Ling, chairman of the Ling-Temco-Vought executive committee.

executing a prime contract of approximately $50 million for the Navy installation, is in an excellent position to obtain new business of this type as the Navy develops a need.

The Nike-Zeus program is in the development stage, and Continental's participation to this point is some $10 million for the development of the acquisition radar transmitters. If this antimissile-missile system proves effective in tests against inter-continental ballistic missiles, which I feel it will, subsequent production funding could mean hundreds of millions of dollars in business for Continental, and LTV, over the next several years with all of the production being handled here in the Dallas area.

Many other space-age applications of super power communications are being explored by Continental, such as the transmitter for a radar telescope, super-power radar transmitters for satellite tracking, radar transmitters for space exploration, and radio transmitters for communicating by bouncing signals off the moon. These are some of the challenges of this age being met by a technical competence developed through years of experience, and they clearly illustrate the growth potential we have.

The old saying that "business is people" was never more true than in the electronics business. Continuing with Continental Electronics as an example, James O. (Jim) Weldon as president heads up Continental's outstanding group of "people." Jim is regarded as one of the world's great scientists in the field of super power transmission. He developed the first million-watt radio transmitters, for the Voice of America, and has gathered a group of engineers and technicians and other team members who have helped him meet the subsequent challenges for the world's most powerful transmitters.

Vought Electronics and Temco Electronics also are developing dynamic capabilities in communications, with particular emphasis on systems and sub-systems for missiles and space projects. Their capabilities, along with those of Continental and other LTV affiliates provide an advantageous position for obtaining large prime contracts for communications systems.

Space systems are irrevocably tied to electronics, a fact which adds to the LTV prospects. The electronics capabilities will tremendously complement the company's aerospace activities to give us a real opportunity to obtain major contracts for complete systems.

One area of communications that could provide particular growth is in the field of Anti-Submarine Warfare (ASW) — or sonar. This is one of the most important efforts in strengthening our defense posture, as evidenced by increasingly heavy expenditures by the Department of Defense.

The perfection of the United States' Polaris weapon system underscored our need for greatly advanced ASW systems, because it is logical that Russia will not be long in perfecting a similar weapon — if one does not already exist. And if a foreign power has nuclear-powered submarines, armed with Polaris-type missiles, it is essential that we have a dependable system for detecting these subs over an area of millions of square miles.

Sonar, which is sometimes referred to as "underwater radar," had an effective range of only a few thousand yards at the end of World War II. Great advances have been made since that time, but present technology still does not provide the coverage over great distances that would be required for a fool-proof detection system that would offer protection against Polaris-type weapon carriers.

Several ASW projects are now under way in various LTV operations, concerning complete systems concepts as well as components and sub-systems. Virtually all of these are highly classified, some to the point whereby no mention whatever of the project may be made.

In one of our sonar efforts, we have miniaturized a transmitter from the size of a half dozen average size filing cabinets to the size of one. This is of tremendous importance, because more equipment and a resulting increase in power and range result from better utilization of space. And maximum use of space on submarines, particularly, is essential.

Vought Electronics has several ASW projects under way, including a sonobuoy approach which involves an instrumented buoy used in conjunction with aircraft. Another project, of classified nature, is undergoing tests at Key West, Fla., now.

Ling-Temco-Vought has very broad capabilities in electronics, but I have devoted my attention here to the area of communications because it is our chief interest in this field and offers tremendous opportunities for growth and expansion.

In conclusion, I want to emphasize how strongly I feel about the potential for the electronics industry in the Dallas area. Every ingredient for very substantial growth is here, and I am confident that Dallas will become one of the world's electronic centers.

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There is an old philosophical sophism pertaining to the difference between the male and female of the species:

"The difference is small, but —
Vive la Difference!"

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WHY ALPHA CAME TO DALLAS

The principal activity of Collins Radio Company is manufacturing. The products range from transmitters for commercial radio stations to airborne radar units for guiding airplanes through stormy skies. Naturally, other operations besides manufacturing figure large in the company. These include research, development, engineering and maintenance and installation of company products. One particular aspect, however, can be readily isolated from the others and that is "systems engineering."

In the jargon of electronics, a "radio" is a transmitter, a receiver, or in terms of today's sophisticated equipment — a unit which combines both transmitting and receiving functions in a single black box, a transceiver. Any two or three or more of these radios in combination make up a "system."

Collins had long maintained a division within the company to do systems engineering. However, advances in technology and plans in the making for ever-more-complex electronic systems brought the need for larger entity than a single division. Thus in 1959, Collins laid plans to create a separate company, the sole function of which would be in systems engineering.

The company which Collins set out to form had to be large and flexible enough to handle any type of systems work. It was not to be a manufacturing firm, but an operation concerned chiefly with combining a number of manufactured units into a radio complex.

Since its founding as a corporation in 1933, Collins Radio Company had grown to include plants as widely dispersed as Cedar Rapids, Iowa; Burbank, California; Toronto, Ontario, and Dallas. When the time came to launch the new firm which was to specialize in systems engineering, again Dallas was chosen by the company's officials.

Collins had known Dallas for years. The Texas Division, founded in 1952, had proved a good investment and its several plants (located in the Trinity Industrial District near downtown Dallas, in Richardson, and in Addison) had assumed many of the new functions which the company had taken on since expanding beyond Cedar Rapids.

By 1959 the composition of the new company was established. The name — Alpha Corporation — was felt to symbolize both "great beginnings" in new areas of human endeavor and also, by reference to the star which bears the same name, to suggest man's striving toward the furthermost regions of outer space in the era of interstellar travel and communication now dawning.

The Alpha Corporation, although growing out of a systems engineering division, was not intended to restrict itself solely to that activity. Indeed, one of the features of the new company was its versatility, and Alpha was designed to assume detailed management of all aspects of a given technical project — including site selection, erection of buildings, towers and other facilities; even, when necessary, road construction.

It was felt by Collins executives that Dallas provided a number of advantages for the new firm. While the basic personnel were to be recruited from the parent company, most of the workers would come from outside. In Dallas, there was a large source of skilled and qualified workers and a pleasant environment for them and their families.

Still other factors made the area attractive. The climate, with moderate winter temperatures, was one in which weather could never be expected to force a plant shutdown. Flying conditions are optimum in Dallas, and airports are only rarely closed in by weather, a vital factor to a company heavily involved in avionics, and to which mobility of its personnel is of utmost importance. In addition, Dallas is a central location offering ready transportation to any point in the United States.

In operations of the scope anticipated by the Alpha Corporation, finance was also important. As financial center for Texas and a multi-state area, Dallas held the special advantage of extensive facilities for dealing with any financial need.

Then, too, since the Dallas area has only recently become industrialized, choice plant locations were still available and townships showed themselves enthusiastic in welcoming the company and helpful in the search for sites.

(Continued on page 70)

Aerial view of the receiving antenna and related buildings at the tracking site of the Alpha Corporation in Richardson.

Dallas Electronics Manufacturers

Firms Employing 100 Or More Are Ranked By Size; Others Are Listed Alphabetically

The tracking station maintained by the Alpha Corporation at Richardson is shown during its construction. This antenna is used in the tracking of orbiting satellites.

Texas Instruments Incorporated

A 31-year old international manufacturing and service organization engaged in commercializing new technologies in materials, electronics and the earth sciences. With headquarters in Dallas, it employs more than 18,000 persons worldwide, including more than 11,000 in Dallas County. Its 1960 sales billed ($232,713,153) placed it 206th among the industrial companies in the United States.

Texas Instruments operates through five relatively autonomous divisions whose products and services are of a high technological content ranging as follows: (1) Application of the earth sciences primarily in exploration for petroleum, but in the strategic security technologies of the nuclear and space age as well. (2) Development and manufacture of electronic systems and instrumentation for national defense and industry. (3) Application of materials knowledge beginning at the structure-of-matter level to develop, design and manufacture semiconductor devices and other electronic components. (4) Application of materials knowledge at the metallurgical level to produce such products as clad metals, motor controls, and nuclear fuel elements and cores.

Texas Instruments plants are located in Dallas and Houston, Texas; Attleboro, Massachusetts; Versailles, Kentucky, and in seven countries outside the United States. Its geophysical exploration crews operate on land and sea in all hemispheres under contract to oil companies.

Located on TI's 350-acre site on North Central Expressway are the company's 632,000 square foot semiconductor product manufacturing plant, 87,500 square foot Central Research building, and 33,000 square foot plant for the production of pure silicon and other basic semiconductor materials. Texas Instruments is a leading manufacturer of semiconductor products, which include transistors, diodes, rectifiers, resistors, capacitors, infrared detector cells, and microminiature

semiconductor networks. In a 254,000 square foot plant at 6000 Lemmon, and other locations in Dallas, TI designs, develops and produces electronic and electromechanical components and systems for government and industry. This includes important portions of 18 different missiles and space vehicles, jet-age airport surveillance radar, undersea warfare electronics, and industrial controls.

In 1960 TI's expenditures for Total Technical Effort (research, development and engineering) amounted to more than $38,000,000, with about one-half supported by others, principally the U. S. Government, and the other half company supported.

Ling-Temco Electronics

With Dallas-area employment of about 7,200, this is a new force in electronics and aero-space industry, a combination of a 15-year-old aircraft firm, Temco, and a fast-moving newcomer in electronics, Ling. The merger, which brought under one top management a galaxy of subsidiaries in electronics and aerospace, produces for defense and industry radio, radar, sonar, testing equipment, closed-circuit television, stereo and other sound systems, electric dishwashers, aircraft, missile and propellant systems, and the Iconorama visual two- and three-dimensional radar plotting display installations.

Temco Electronics & Missiles Company, a subsidiary of Ling-Temco Electronics, Inc., has four Dallas-area divisions — Missiles and Aircraft; Aerosystems; Electronics and Industrial, which is expanding into consumer markets. Temco occupies 807,000 square feet at its Dallas plant, 547,000 in Garland and has under lease in North Dallas an additional 75,000 square feet. Its Greenville facility, in Dallas secondary commuting area, with 416,000 square feet under roof, employs approximately 1,800. Sales in 1960, about $150 million.

The other principal Ling-Temco operating companies are Continental Electronics Manufacturing Company, Inc., Dallas; Continental Electronics Systems, Inc., Dallas; The Electron Corporation, Dallas; Ling Electronics Division, Anaheim, Calif.; Ling-Altec Research Division, Anaheim; Altec Lansing Corp., Anaheim; Altec Service Company, Anaheim; Peerless Electrical Products Division, Los Angeles; The Calidyne Company, Inc., Winchester, Mass.; United Electronics Co., Newark, N. J.; University Loudspeakers, Inc., White Plains, N. Y.; Friedrich Refrigeration, Inc., San Antonio; Ed Friedrich, Inc., San Antonio; FF&M Electronics, Los Angeles; Micromodular Components Division, Anaheim, and Missile and Space Systems Engineering Division, Los Angeles.

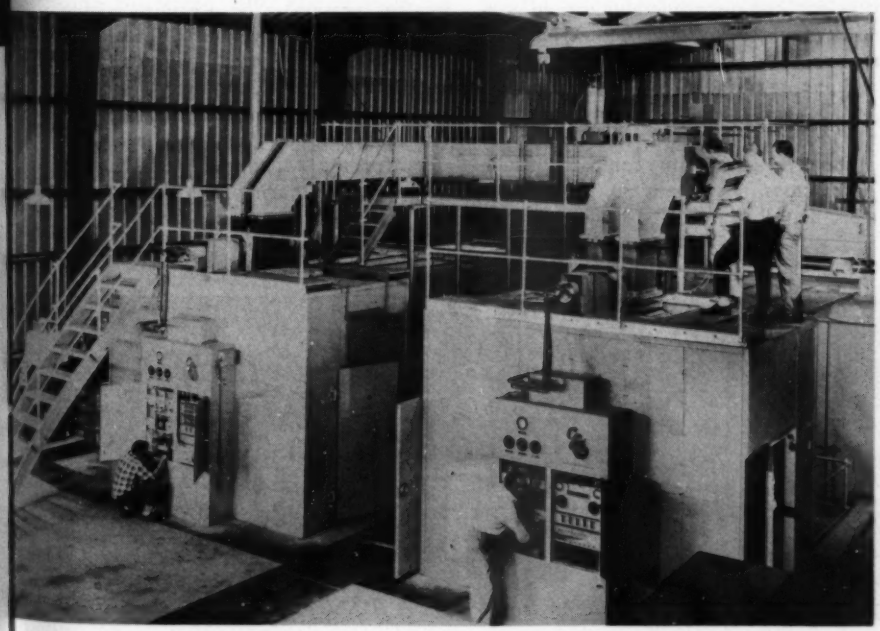
Defense contracts include work on the Army's Sergeant Missile System, anti-submarine warfare weapons, the Air Force manned missile-launching platform, the B52H, the BO70 Valkyrie Bomber, sub-contract components for Boeing, Convair, McDonnell and Republic, Temco's own TT-1, KDT, the Corvus Missile, participation in the AN/USD-7 project (electronic weapons system). Ling-Temco Electronics, Inc., subsidiaries have engaged in developing and manufacturing systems for the Polaris, Minuteman, Titan, Thor, Atlas, Hawk, Davy Crockett, Terrier, Talos and Pershing programs.

In 1959 the corporation spent $2.7 million for R&D; the 1960 stockholders' report shows even greater expenditure.

Continental Electronics

Specializing in super-power electronics equipment and manufacturer of the most powerful transmitter on earth (bouncing radar off Venus), this company built the strongest transmitter of its type known to exist to combat successfully Russian jamming of the Voice of America broadcasts from Munich; five such transmitters cover the world's strategic areas for the State Department. Collaborating with Alpha Corporation, and in competition with twelve other companies, Continental had the winning proposal November, 1960, for still another installation within Continental U. S. In January, 1961, the company completed the world's most powerful radio station (2 million watts) for communicating with Polaris subs, even under water.

Defense contributions include multi-megawatt radars for the Air Force's Ballistic Missile Early Warning System and the Army's Nike-Zeus, and radio frequency driver systems for atomic research at Argonne National Laboratory. Continental's two plants have 325,000 square



Engineers and technicians prepare a multi-megawatt BMEWS radar transmitter for testing. The transmitters are produced by Continental Electronics Co.

Intricate electronic equipment produced in the Apparatus Division of Texas Instruments Incorporated requires the dexterity and patient concentration of these trained and highly-skilled assemblers.

feet. Continental Electronics Systems, Inc., installs super-power electronic systems.

The Electron Corporation

Manufactures low-cost television stations and "compact, automated and economical" FM radio broadcasting stations which permit a single announcer-engineer to operate the entire station. Electron announced early this year a commercial-type television station, pending FCC approval, beamed to Dallas businessmen on UHF Channel 73 for visual-with-little-audio news stories, market quotations and weather. The company is strong in the UHF field with TV cameras, monitors and converters for industrial and educational uses. Educational television currently is being emphasized, with KERA-TV and Richardson School System serving as testing grounds. Electron just announced plans to construct new 23,000-square-foot building in Richardson, to cost $150,000.

Vought Electronics

Chance Vought Corporation: Long a respected name and a pioneer in naval aviation, Chance Vought has been intensively diversifying for the past three years through broad-based research. Dallas area employment is about 7,000; total plant and office — 2,922,800 square feet (exclusive of Electronics Division).

The Electronics Division moved into its own 80,000 square-foot 3½ million dollar plant in January, 1961, with four major operating branches; Automatic Controls, Electronic Systems, Radiation Systems, and Guidance Systems.

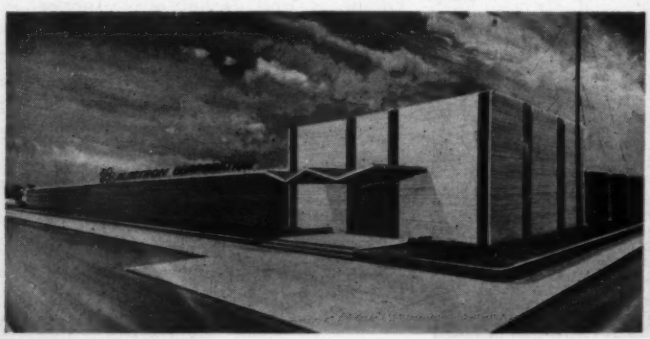
Automatic Controls Branch embraces actuators, digital valves, flight control systems and other automatic control products. Electronics Systems Branch includes ground support equipment, FFA systems and related equipment, and program management of radiation system products.

Radiation Systems Branch designs and develops complete communications systems, radar, electronic countermeasure systems, data collection handling systems, antenna and radio components. Guidance Systems Branch is involved in inertial guidance systems for missiles.

Other divisions of the company include Aeronautics, Astronautics, Range Systems and Research. Its subsidiary, National Data Processing, manufactures and installs electronic computer systems, and a wide spectrum of industrial automation equipment; employs 180. Information Systems, Inc., has two separate operating units, Genesys Corp., and Panellit, Inc., in the field of automatic control and monitoring systems. Vought Industries, Inc., manufactures mobile homes. It was announced on March 16, 1961, that Chance Vought had acquired two California firms — boat engineering and boat building — to provide complementary facilities to expand its anti-sub and marine engineering programs. Among Chance Vought's recent developments is a Proof System, an electronic fingerprinting device.

Chance Vought's contributions to defense and space exploration include Navy's Crusader Fighter (a new all-weather version), the Regulus missile series, the successful Scout Research Rocket (United States' first solid fuel orbital vehicle), the Air Force Blue Scout series, electronic test equipment for the Titan, nose cap for the Dyna-Soar, actuators for the Minuteman ICBM, first-stage tanks for the Saturn, Video Correlator System for increasing radar range,

New building of Electron Corp.



Construction at Collins Radio Co.

This complex production equipment, which performs some of the steps in assembling transistors, was built by Texas Instruments for use in its Dallas plant to improve the product quality.

plus NASA contracts for study of space launching stations and other projects. About 20% of Chance Vought's budget is being plowed into R&D.

Collins Radio Company

The Texas Division of Collins which has home offices in Cedar Rapids, Iowa, is headquartered in Dallas. This firm's Dallas facilities, together with its subsidiary, Alpha Corporation, currently employ over 3,000 workers occupying over 200,000 square feet, including a 106,000-square-foot research and development buiding located on its 200-acre site in Richardson, and an aircraft modification center at Addison Airport, with 35,000 square feet of floor space.

In November, 1960, the company announced a $1,800,000 manufacturing building of 117,000 square feet to consolidate and expand some of its spread out operations. The Texas Division specializes in single sideband communication, scatter communication, microwave communication, and airborne navigation equipment. Most of the company's work involves ground communication equipment, airborne communication, navigation and flight control equipment and broadcast equipment.

Collins Radio Company has subsidiaries in Canada, England, France, Germany and Australia.

Alpha Corporation

Formed by Collins Radio Company in April, 1959, this Division extends Collins' activities in detailed management of technical projects — total systems management, including the physical environment, sites, buildings, towers and other facilities. Alpha's projects include these systems: space surveillance; transportable communications; instrumentation, control and switching; integrated land, sea, and air communication.

Alpha made headlines in the summer of 1960 by bouncing voices off the Echo Balloon to talk with Collins engineers at the plant in Iowa. In Richardson, Alpha operates a special satellite tracking station using a 40-foot dish antenna.

Laboratory, office, and manufacturing facility occupy 100,000 square feet.

Varo, Inc.

Major supplier of active infrared equipment and solid state power supplies for ground and submarine applications; specialized parabolic light reflectors, silicon diodes, special purpose capacitors, static inverters, magnetics, electro-optics, microcircuitry. Emphasizes applied research in these fields. Its subsidiary, AG Optical Co., Chicago, has broadened the company's base into optical assemblies for military and commercial outlets. Varo's sales (total $5,581,250 for fiscal '61 — $9,000,000 anticipated for fiscal '62) are 85% military. Divisions are R&D (approximately 20% of the budget), Electronic Products, Magnetics, and Special Products in Garland, Texas; Optical Div. in Chicago, Ill.; and Electrokinetics Div. in Santa Barbara, California. Defense contributions: power converters, Polaris nuclear subs and ICBM; power system work on Minuteman, Skybolt, Atlas, Titan, Pershing and Mace Missiles. Employs 550; 85,770 square feet, total of three plants.

Dresser Electronics

HST Division, subsidiary of Dresser Industries, Inc., designs and manufactures magnetic components and electronic subsystems for commercial, industrial and military use in the fields of aviation, computers, global communications, industrial automation, missiles and rockets, petroleum exploration, radar, and television transmission.

HST magnetic components include special and stock transformers, chokes, reactors, wave filters, and magnetic amplifiers — many miniature to sub-subminiature in size. The larger and more complicated subsystems include power supplies, inverters, conveyors, voltage regulators, and servo amplifiers which contain an assembly of different types of electronic components including some of HST's own magnetic components and printed circuits.

Many of these products Dresser Electronics builds and tests to meet rigid Mil-Standard specifications. Vital to this procedure is the company's complete environment testing laboratory where simulated altitudes up to 40 miles, temperature ranges from —100°F to +500°F, impact shock of 75 Gs, and other environments can be achieved.

Sister Dresser companies also serving the field of electronics are Dresser Electronics — SIE Division, which produces industrial and military apparatus; and Dresser-Ideco which designs, fabricates, and erects large land-based antenna structures. The main plant and general offices of Dresser Electronics — HST Division occupy 65,000 square feet, and employ some 400 people. Dresser Electronics is a subsidiary of Dallas-domiciled Dresser

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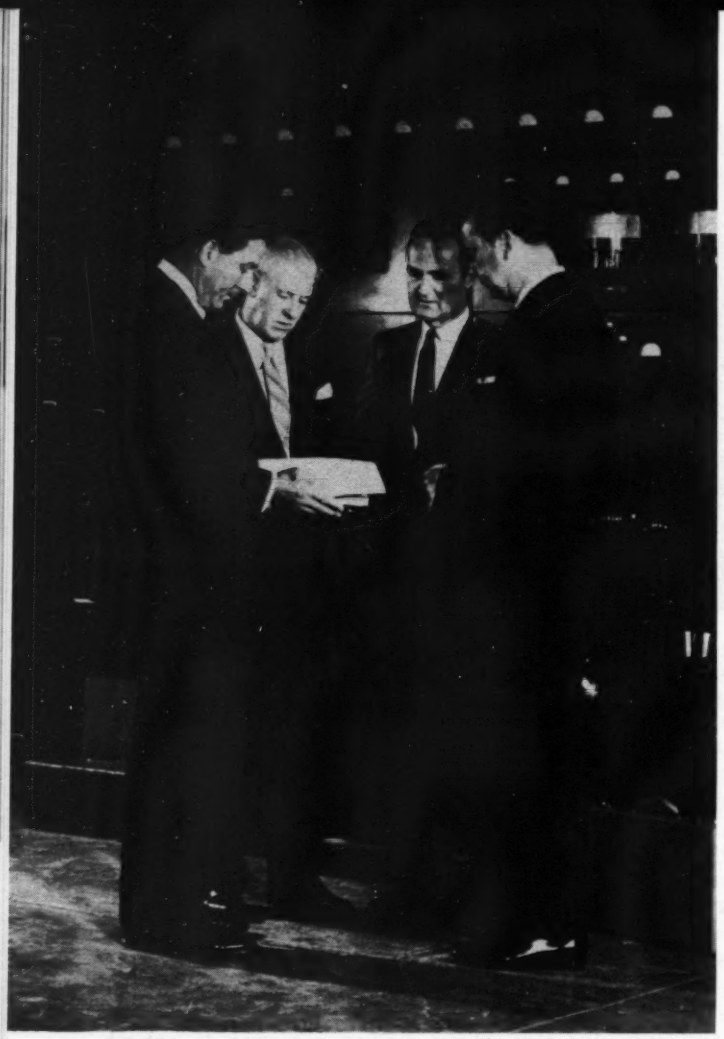
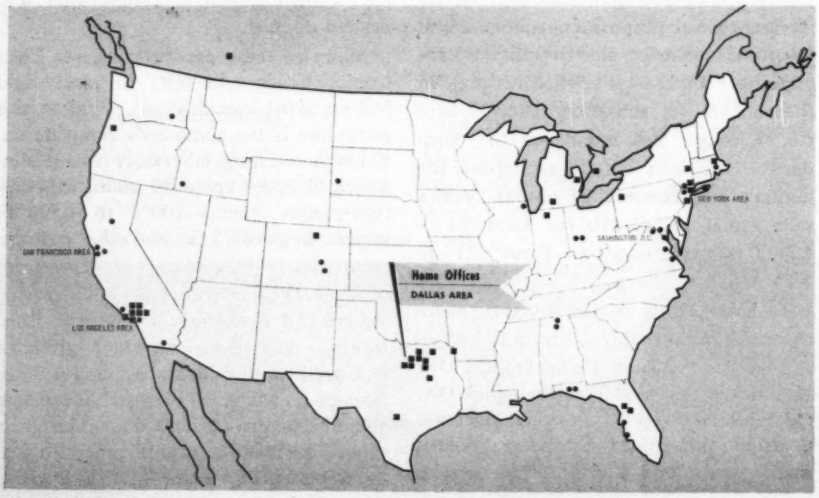
Space-Age Merger



Officers of Ling-Temco-Vought, from left, James J. Ling, chairman of the LTV executive committee; Robert McCulloch, chairman of the board and chief executive officer; Gifford K. Johnson, president, Clyde Skeen, executive vice president.



■ Major producing units and facilities. | • Off-site projects, field operations and major marketing offices.

Operations of Ling-Temco and Chance Vought

A new industrial giant was born in Dallas this month with the merger of Ling-Temco Electronics, Inc., and Chance Vought Corporation. The two organizations approved combination of the businesses into Ling-Temco-Vought, Inc., effective August 31. With some 20,000 employees, this new firm will be the largest employer in Metropolitan Dallas.

Boards of directors of the two corporations already had agreed in principle to the combination. The agreement provides for the transfer of Chance Vought assets and properties to Ling-Temco in exchange for convertible debentures and stock purchase warrants. CVC will be immediately re-established as a new Chance Vought Corporation, the aerospace subsidiary of Ling-Temco-Vought, Inc.

Ling-Temco-Vought, Inc., will have headquarters at 9314 West Jefferson, where main production units of CVC and Temco, a subsidiary of LTE, have been located for many years.

Based on Dec. 31, 1960, figures, Ling-Temco-Vought will have more than 20,000 employees, assets of $194 million and a backlog of unfilled orders approximating $300 million. The pro forma combined sales of the CVC and LTE corporations and their subsidiaries in 1960 were approximately $362 million.

The combined company will utilize approximately 7 million square feet of floor

space, plus other land, ramps and runway space. Ling-Temco-Vought has subsidiary, divisional or service activities in almost every state in the nation and at several overseas locations.

Both companies have been expanding in commercial and industrial products. With approximately one-third of total sales in these areas, LTV is assured a prominent place in sales of high quality public address and home hi-fi and stereo equipment, commercial and educational television stations, mobile homes and housing, air conditioning, home appliances, commercial and industrial laundry equipment and refrigeration equipment, vibration and environmental devices, radio transmitters, and industrial controls and data processing systems.

Among major military contributions are supersonic aircraft, super-power radar and radio transmitters, space-probing rockets, supersonic target missiles, anti-submarine warfare systems, electronic target displays, long-distance communications systems, and varied electronic equipment for missiles, aircraft and spacecraft. LTV is also a major subcontractor to other prime contractors and government agencies.

Chief LTV officers and members of its Board of Directors will include Robert McCulloch, board chairman and chief executive officer; James J. Ling, chairman of the executive committee; Gifford K. Johnson, president; Clyde Skeen, executive vice president; R. C. Blaylock, vice president and technical director; Lee D. Webster, vice president, secretary and treasurer, and J. J. Kerley, vice president, controller. Mr. W. Paul Thayer will become president of the subsidiary, Chance Vought Corporation. Mr. James O. Weldon will also be a member of the board and will continue as president of the subsidiary, Continental Electronics Manufacturing Co.

Other directors of the company will include D. H. Byrd, president of D. H. Byrd Enterprises; Dr. V. A. Davidson, who is engaged in real estate and investments; Robert B. Gilmore, senior vice president, De Golyer & MacNaughton; Troy V. Post, president, American Life Insurance Company; L. T. Potter, president, Lone Star Gas Company, and W. C. Windsor, Jr., president, Windsor Properties, Inc., all of Dallas, and Dr. LeVan Griffis of Houston, dean of engineering, Rice Institute; E. J. Morehouse, vice president, Harriman, Ripley & Company investment bankers, and William H. Osborn, Jr., partner, Lehman Brothers investment bankers, both of New York.

Even Buck Rogers would be amazed!

An automobile that flies . . . replicas of Echo I satellite and the communications equipment that bounced signals off it from Dallas to Cedar Rapids . . . a working model of a seismic unit that unerringly indicates the presence of oil — these are only a few of the displays in Texas Bank's "Products of Growth" series, scheduled to continue through the summer.

The purpose is two-fold: to salute Dallas industry and its accomplishments, and to give the public a preview of our world of tomorrow, in terms of products created or manufactured in the Dallas-Fort Worth area. Thousands have thronged to these exhibits. Have you seen them?

"dynamic growth rooted in responsible banking"

Just follow the "Products of Growth" signs at Texas Bank to the display area —and remember to look for a new display every two weeks.

PRODUCTS OF GROWTH

TEXAS BANK
AND TRUST COMPANY OF
DALLAS

RI 8-4141 / MAIN & LAMAR / DALLAS, TEXAS / MEMBER F.D.I.C. / TOTAL RESOURCES MORE THAN $100,000,000

Council of Scientific Societies

An idea which had been brewing in the minds of a number of local scientists was triggered by the launching of Sputnik I back in 1957, and has ballooned in a short three-year period of time into a full-fledged organization representing some 20,000 professional people.

The Council of Scientific Societies was the brain child of scientists and technologists of many of the professional societies in the Dallas area. They realized that at a time when science and the application of science were more and more shaping the destiny of man, almost nothing was being done to prepare the public adequately to cope with these new and usually little-understood forces.

The initial meeting of the then-unnamed group was held in January 1958. Three months later they had a constitution, a set of by-laws and a name — Council of Scientific Societies.

The CSS consists of some 27 member societies in this North Texas area, representing all phases of science, with a very heavy membership of electronics personnel.

These men currently head up the Council of Scientific Societies: C. Frank Seay of the Graduate Research Center of the Southwest is president; Sam T. Lanham of the Department of Electrical Engineering at Arlington State College is vice president; Martin Kelsey of Atlantic Refining Company is corresponding secretary; Glyn Beesley of Dallas Power and Light is recording secretary, and L. H. Erb of Bell Helicopter Company is treasurer. Chairman of the 24-man board of directors is Robert C. Dunlap of Geophysical Services, Inc. The working body of the organization, known as the executive committee, is directed this year by Dr. Gordon K. Teal of Texas Instruments. With eleven members, this committee performs the work cut out by the Council and appoints and controls committees to assist in the promotion and expansion of the organization.

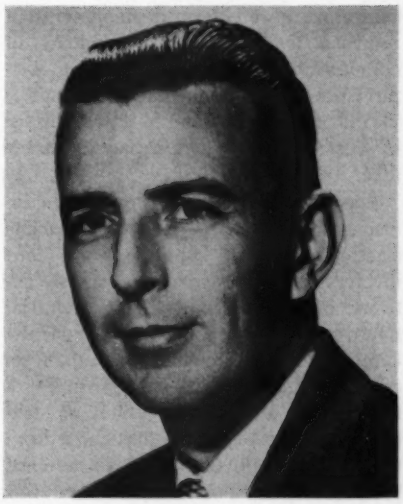
The Council has concentrated on obtaining increased interest (1) among its members in civic and national affairs, (2) among the general public in the impact of science, (3) among all peoples in the intellectual endeavors in the sciences, (4) and most important, among educational circles, to assure our children of the best possible training for whatever futures they may seek within the limits of their abilities and interests.

The last point, that of education, is probably the chief cornerstone of the Council. The organization strongly feels that efforts to improve educational standards at all levels are needed and are of paramount importance, and further, they believe that these efforts will be more effective if confined primarily to the local situation rather than attempted on a national scale.

The members of the Council believe this and are acting accordingly. They have set up a teacher scholarship program, designed to help teachers do advanced study, and up to date have granted 32 scholarships. They have brought distinguished speakers to Dallas, eminent scientists, authors and lecturers who have attracted large audiences. Last year, they provided a career planning program which was attended by over 100 high school and college students. They are working with the Richardson Independent School District in an effort to assist their elementary schools in upgrading science education.

Here, in Dr. Teal's words, is a report of the present status of the Council of Scientific Societies. "The interest that has been aroused in the Council's activities and the positive good that has already been accomplished forecast that the Council will likely be an important permanent part of the community life of the area. I sincerely believe that the Council can greatly benefit our community and bring in a new understanding that true wealth can most satisfyingly be measured by the multiplicity and depth of its intellectual and human values rather than by the abundance of its material products."

C. FRANK SEAY
President



ROBERT C. DUNLAP
Chairman, Board of Directors

GORDON K. TEAL
Chairman, Executive Committee

ELECTRONICS DISTRIBUTION

Adds another Dynamic Dimension To Dallas' Wholesale Leadership

By Tom McHale

Sub-miniature thermistor shown against package illustrates size of some of the electronic components stocked in Dallas.

Geared to its spectacular industrial growth in Dallas, electronics is projecting another dynamic dimension for Dallas distribution. Dallas is moving into place with Los Angeles, New York, Chicago and Boston, as one of the major electronic marketing areas of the nation. Its major electronic supply houses and concentration of electronic manufacturers' representatives corral a multiplicity of components from hundreds of manufacturers over the nation and funnel these into Dallas industry and to a growing list of customers over an expanding trade area.

Speed and scientific accuracy are indispensable facets of Dallas' space-age electronic industry supply service. This involves the procurement and speedy delivery of thousands of highly technical micro-miniature electronic components. Circut breakers weighing less than an ounce, minute capacitators, resistors, potentiometers and a whole galaxy of technical items with specifications carried out to the equivalent of five or six decimal places, are part of the daily order routine of these supply sources. These are channeled to plant production lines, engineering and research facilities, maintenance in radio-television and other electronic installations and a fast growing segment of Southwest industry in production line automation, quality control, weighing, packaging and other electronic industrial uses.

"Today" is the standard delivery date in the electronics supply industry, according to Bob Snipes, marketing manager of Engineering Supply Company, Dallas' largest electronic supply house. "Sure, I want it today . . . if I wanted it tomorrow, I would order it tomorrow." That's the inevitable telephone reply of the Dallas electronic industry purchasing executive, states Mr. Snipes.

To cope with this high-speed tempo of the electronics industry, ESCO orders are now processed with an IBM 305 RAMAC. First electronic and industrial supply house in the Southwest to install this service — ESCO — with its RAMAC computer random access memory — checks inventory levels in the amazing average time of 4/10 of a second per item, prints invoices and purchasing orders at 150 lines a minute and completes an average order in only 45 seconds.

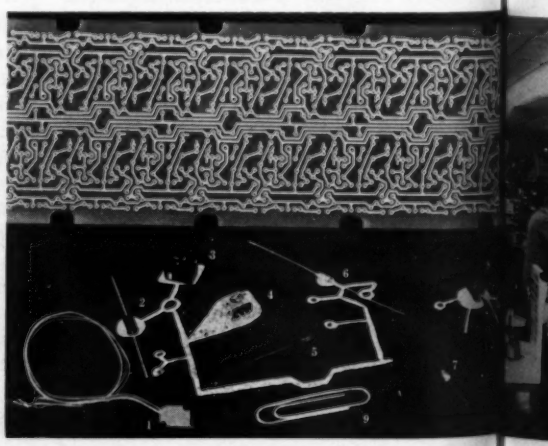
An intercom hookup with their RAMAC console operator gives the technical telephone salesman at ESCO instant answers to customers' questions on stock items, number and price base. The RAMAC maintains proper inventory levels on all items, alerts for purchasing needs and even records on the order form the location and bin number in which a given item is stocked on ESCO's shelves.

The swift tempo change in electronics, the high velocity and volume of research and the highly technical nature of this industry, makes for a virtual partnership between customers and suppliers in the electronics industry. According to Bob Snipes: "Our business is built about and directly concerned with the growth and development of each user of electronic components and supplies. Each contract awarded, every prototype under consideration and every new product developed has a direct effect on the merchandise we stock, and the steps we take to provide what each customer needs, before he needs it.

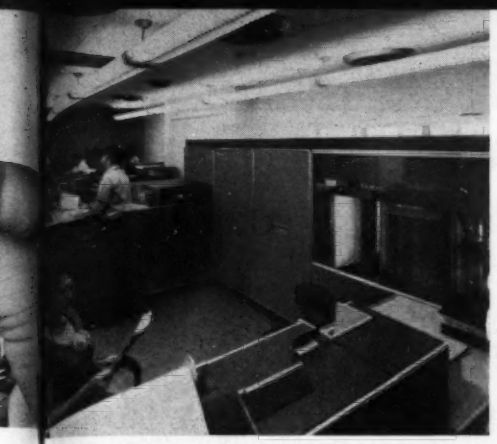
"In the early history of the industry the distributor was established as a local source for those items needed in design and product development. Serving many companies in their selected field of interest, the distributor soon accumulated a wide range of hard-to-locate items which he made available from a local warehouse.

"The manufacturer learned to rely on this local source which was planned to meet his production requirements. And the distributor learned to accurately gauge the total requirements for the industry in his market area. The unwritten partnership which developed created lines of supply which are unique in industrial sales. In no other industry does the industrial distributor enjoy such close contact with the customer and perform such a vital service."

While electronic distribution is highly competitive as well as highly technical, it also involves a close working arrangement that extends from the customers to the distributor and manufacturers' representatives. The channels of distribution on electronic components involve a variety of breaking points on quantity for direct factory shipments and move through distributors with stocks and di-



Sub-miniature electronic components displayed at Engineering Supply Company before a printed circuit board. Check size in relation to paperclip 9. 1. Sub-miniature trim-pot (potentiometer) 2. Silicon rectifier. 3. Circuit switch with miniature snap plate. 4. Tuneable sub-miniature potentiometer. 5. Thermistor probe. 6. Tantalum capacitator. 7. Micro-miniature bulb. 8. Transistor-transformer.



IBM 305 RAMAC with console in foreground and "juke box memory" disks on right at Engineering Supply Company.

rect factory representatives, with and without stocks.

The Southwestern Chapter of the Electronic Representatives Association, with headquarters in Dallas, provides a key cooperative example of some 33 firms with more than 125 technical representatives covering the Southwest. This group represents some 300 firms serving as supply sources for components.

According to J. Robert Natoli of Allied Components Inc., president of the Southwestern Chapter and regional vice-president of the National Electronic Representatives Association, expediting is the master function of the members of this organization and the solution of common problems between manufacturers and customers.

The regional and national conventions of this group are virtual seminars, according to Mr. Natoli. "Because of the highly technical nature of this supply business, most of the representatives are graduate electrical engineers or men with practical design or production experience. ERA members work with manufacturers and customers as well as distributors.

"Members of this group collectively publish a membership directory and Buyer's Guide to the firms and lines represented. All the members represent multiple manufacturers and here again fast communications is the watchword with TWX and FAX being an integral part of the set-up of many firms."

The growth of Dallas as an electronics distribution center is reflected in multiple yellow pages in the Dallas Telephone Directory. Ten years ago this business was confined largely to replacement parts for radio and TV stations and sets and ham operators equipment. Today, the largest industries in Dallas are served by these distributors.

Largest in the Southwest is Engineering Supply Company, a corporate division of Texas Instruments Inc. This firm maintains a million dollar stock including some 28,000 items and has more than 100 employees. Engineering Supply has grown almost fourfold in the past 8 years. Its primary business comes from several thousand accounts in the Southwest and it maintains a branch warehouse and sales office in Tulsa. Because of its stocks of hard-to-get items, the firm often gets calls from plants in Oregon, Alabama, Florida and other points.

All State Electronics Inc. is another leading industrial electronics supply firm serving the Dallas area. All State recently merged with Central Electronics, taking over all assets, stock and personnel. J. Howard Klein remains as president and chief executive officer of All State and A. D. Martin Jr., Central Electronics president, becomes chairman of the board of the new firm.

Section of customer counter, stock and electronic service salesmen at All State Electronics Company, leading Dallas industrial electronics supply firm.

J. Y. Schoonmaker, center, examines micro-miniature relay with associates Jack Blacketer, Jess Spoontz and Jim Burley at J. Y. Schoonmaker Company.

J. Howard Klein founded All State 21 years ago with a $350 stock of radio parts. Today the firm has 24 employees, stocks multiple thousands of items and serves major industries in the Southwest. The combined inventory will represent one of the largest diversified component stocks in this area.

All State distributes such items as relays, transformers, tubes, test equipment instruments and varied components. In addition to serving electronic industries and firms engaged in contract and subcontract work on aircraft missiles and military hardware, the firm has a large business in radio and TV station operating equipment, radio and TV parts and ham equipment. The firm maintains an exclusive radio and TV parts store in Oak Cliff and a combination distribution center in their headquarters at 2411 Ross Avenue. About 70 per cent of the business of the firm is in industrial components.

Arnold Barnes Co. is one of the leading smaller manufacturers' agents making up the Dallas electronic distribution community. This firm represents 12 companies in a four state area including Texas, Oklahoma, Arkansas and Louisiana. These firms make electronic components, instruments and systems. Arnold Barnes started business six years ago as a one-man organization. Today the firm has four employees and maintains a resident sales representative in Tulsa.

E. F. Aymond Co. is another leading manufacturers' representative for electronic components and parts serving the electronic and aircraft industries. E. F. Aymond Sr. started this firm in 1931 as a one-man outfit representing one firm. The firm now represents 16 companies extending from Vermont to the West Coast. With E. F. Aymond Jr. the firm now encompasses a father and son team with eight employees and a Houston Branch.

Their territory includes the states of Texas, Oklahoma, Arkansas, Louisiana and Mississippi. Mr. E. F. Aymond Sr. is the oldest representative in terms of service, 27 years, for the Camden Electric Co: of Los Angeles.

Southwest Electronic Industries are manufacturers' representatives serving the electronic industry in the four-state Texas, Oklahoma, Arkansas and Louisiana area. They serve supply requirements of original equipment manufacturers, government facilities, colleges and universities involved in electronic programs and research and development projects.

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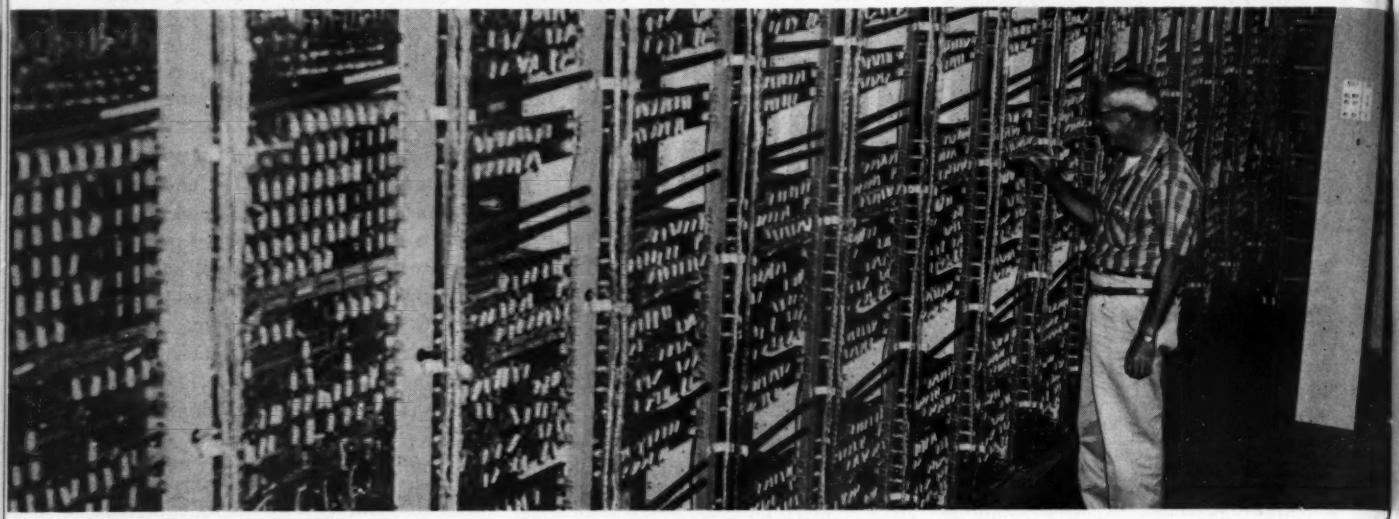
DALLAS GETS DIRECT DISTANCE DIALING



Switchman Cliff Brackeen makes an adjustment on Registers, where calls first come into the MElrose office.

Brackeen reads a tape from the perforator. Billing information is automatically perforated on this tape for all DDD calls, then decoded in an accounting center.

Direct Distance Dialing, one of the latest developments in telephone science, will be introduced this month to some 10,000 Dallasites who have telephone numbers beginning with MElrose 1, DIamond 8 or ADams 3.

At 12:01 a.m. Sunday, July 30, engineers at Southwestern Bell Telephone Company will place machinery in operation that will permit these telephone users to dial any of about 50 million telephones in the United States and Canada as easily as they dial a local call.

"We're bringing Direct Distance Dialing — or DDD as we call it — to these three offices first because the switching equipment there is more readily adapted to DDD than the equipment in other Dallas central offices," Marvin Davison, division manager for Southwestern Bell, said. "Present plans are to extend DDD to most other telephones in Dallas by the end of 1962."

Dallas telephone users who start using the new service July 30 will find that making a DDD call is fast and simple. They simply dial "1" to put the call onto the DDD equipment; then a three-figure area code number, then the telephone number they're calling.

The United States and Canada have been divided into 117 numbering areas to make the new service possible. Each has a different three-digit code. Denver, for example, has a 303 code number.

"To dial TAylor 5-4199 in Denver, for instance," Davison said, "all you need to do is dial "1", then "3-0-3", and then "TA-5-4-1-9-9. Within seconds, the Denver telephone will begin to ring."

"The average time to dial a phone on either coast from Dallas will be around 17 seconds," Davison said. "If direct circuits are busy, DDD's complex equipment will automatically select an alternate route. With electronic precision, this is done so fast the caller is never aware his call to New York may have been routed through Atlanta, then to Boston and back to New York City from the north."

Brain of this complex electronic routing system is a machine called a card translator. Its job is to find available circuits, then tell the DDD switching equipment where to find the circuts and how to use them. The machine relies on the tiny transistor, invented by the Bell Telephone

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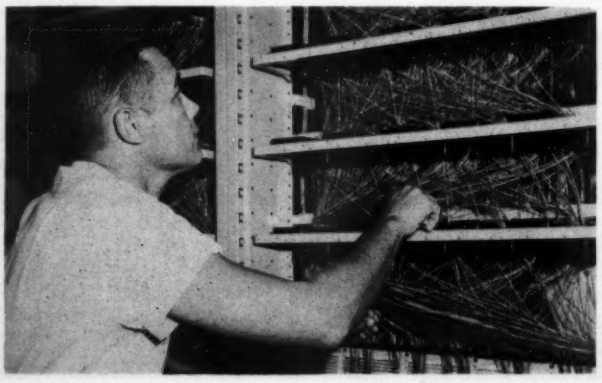


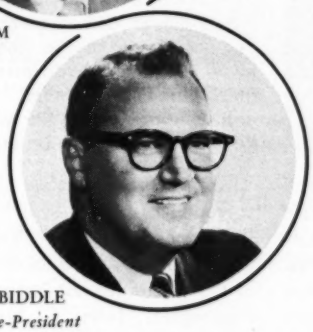
Lynn Kendrick, switchman in the MElrose office, at work on the Translator Frame. This frame identifies the telephone number of the individual making a DDD call.

M. P. CRUM CO.

Negotiators of First Mortgage Loans in Dallas Since 1924

It is our privilege, as mortgage bankers, to link major investors of private capital with the forward-looking builders, merchants, manufacturers, real estate agents, distributors, professional men, home buyers, and many others who by their vision and enterprise are creating the vigorous economic environment in which we do business. We share with them a calculated confidence in Dallas and the vast Southwest, its resources, and most of all, its people.

PAUL CRUM
President



JAMES B. BIDDLE
Executive Vice-President

The 1960-61 fiscal year which we are closing out has been the most successful in our 37 years of mortgage banking service. Convincing evidence that we are fortunate to serve so dynamic a segment of a thriving community!

The obligation of success is to provide even better service. We are adding IBM accounting and expanding our office facilities to better serve you. We offer complete counseling in residential, apartment, commercial, and industrial financing, and a complete line of general insurance. Our staff knows the problems of taxes, insurance, property values, zoning, financing — the solutions to which can mean profit for you.

We Represent These Lenders Who Help Build Dallas and The Southwest:

Century Life Insurance Co.	Fort Worth, Texas
Fidelity Mutual Life Insurance Co.	Philadelphia, Pa.
Hackensack Trust Co.	Hackensack, N. J.
Kansas City Life Insurance Co.	Kansas City, Mo.
Lincoln Liberty Life Insurance Co.	Lincoln, Neb.
Massachusetts Mutual Life Insurance Co.	Springfield, Mass.
National Life Insurance Co.	Montpelier, Vt.
New England Mutual Life Insurance Co.	Boston, Mass.
Pan-American Life Insurance Co.	New Orleans, La.

We are proud to have arranged financing for many new facilities, including those occupied by the following firms:

- Insurance Co. of North America
- Core Laboratories
- Hardware Mutuals Insurance Co.
- IBM
- Texas Industries
- Service Bureau Corp.
- Chance Vought Corp.
- Consolidated Handbags Co., Inc.
- Dallas Airmotive, Inc.
- J. V. Folsom & Son
- Western Auto
- Kaiser Aluminum
- Dayton Rubber Co.

We also have arranged loans on office buildings, warehouses, shopping centers, retail stores and apartments in Dallas, Garland, Fort Worth, Abilene, Albuquerque, N. M.; Atlanta, Ga.; Baltimore, Md.; Chicago, Ill.; Denver, Colo.; Kansas City, Mo.; Mobile, Ala.; Tulsa, Okla.; and San Juan, Puerto Rico.

M. P. CRUM COMPANY

1404 KIRBY BUILDING DALLAS, TEXAS RI 7-6337

MEMBERS — Dallas Mortgage Bankers Association, Texas Mortgage Bankers Association, Mortgage Bankers Association of America, Dallas Chamber of Commerce, Home Builders Association of Dallas County.

Halfway Mark Reached in Membership Goal

New Member Visitors at June Committee Luncheon—Left to right: Associate Chairman Bill Shaw showing skyline of Dallas to Messrs. Robert L. Campbell, Jr., Stone Forwarding Co.; Ben Caballero, The Apartment Finders; Ed Dowd, Midco; James C. Kimmel, Kimmel Construction Co.; Miles Middough; Charles Gionet, Divco-Wayne Corp.; Jack Burney, Contact Corp.; G. C. Walker, Aero Test Co.

Mr. Ben Carpenter, President of the Trinity River Improvement Association and Chairman of the Chamber's Trinity River Committee addresses Lasso Club on "The Last 400 Miles," giving details and comparisons on the projected Trinity River Barge Canal to be opened in 1970.

The Lasso Club set a new all-time record of accomplishment for the month of June, when the Committee of 155 men sponsored a total of 332 memberships, bringing their 1961 total to 1,346 new Chamber memberships sponsored through June 30th. The Committee now needs only 954 memberships to reach its self-imposed goal of 2,300 memberships this year.

The Executive Council met after July 1st to review the accomplishments of individual committee members and overall progress. The review revealed 39 individuals had qualified for "Top Hand Awards" (by sponsoring 12 or more memberships during the first half of 1961), and two veteran members, E. Stanford Parr and Jack D. Gidcumb achieved the much coveted Life Membership Award in the Dallas Chamber (sponsoring over 100 Chamber memberships in 12 consecutive months) becoming Life Member #42 and #43 respectively.

In their review the Executive Council recommended that 29 of the present committeemen be dropped from the roster of the Chamber as they had not averaged one membership per month for the first six months of the year, as required by the Membership Committee By-Laws. Chairman Bob Cullum stated "we regret very much losing the services of these fine Chamber members, as we realize that in practically all cases their failure to remain in good standing on the Committee was not due to lack of desire on their part, but was primarily due to pressure from their business, and in some cases, personal matters. We are looking forward to many of these individuals being re-appointed to our Committee at some future date, when circumstances have made it possible for them to become active again."

"Committeeman of the Month" for June was a five year veteran of the Committee, Jack D. Gidcumb of Girard Life Insurance Company. Not only was Mr. Gidcumb "Committeeman of the Month" but during June he qualified for Life Membership in the Chamber by sponsoring his 100th member within the past twelve consecutive months. Chairman Cullum said "we know that all members of the Chamber join with the members of our Committee in congratulating Jack for his accomplishment, and to also thank him for his fine job in our overall program of building a Greater Dallas.

In the race for the President Avery Mays Trophies, standings for the top three teams continued the same for the three consecutive months. The winners as of June 30th: Section #5, Vice Chairman Dawson Sterling, Southwestern Life Insurance Company, 310; Section #4, Vice Chairman David D. Locker, 200; Section #8, Vice Chairman Asher Dreyfus, Jr., 171 memberships. For the first time since June 1st, the "Top Hand of the Year" Trophy (given to the top individual producer) went to Jack D. Gidcumb who had sponsored a total of 98 memberships, nosing out Dave Locker with 89 memberships for the same period. Mr. Locker had retained possession of this trophy during the first five months of the year. Also for the first time this year, Dick Ingram lost possession of the "Top Wrangler of the Year" Trophy, which is the individual award for the top producer of the Committee-At-Large section of the Committee. John J. "Jack" Hospers, Chance Vought Corporation, gained possession as of July 1st with a total of 49, but Mr. Ingram is continuing in the running with 48 memberships.

The Board of Directors of the Dallas Chamber of Commerce takes great pleasure in thanking the following veteran members who this month added to their investments in Greater Dallas by substantially increasing their annual Chamber of Commerce dues:

American Building Maintenance, 1805 North Industrial, Glen Williams, Carl Gann, T. R. Laney, (Jack Gidcumb)

American Hospital Supply Corp., 2503 Butler, Ned Bangs, Frank Spilman, (Ralph Webb)

Batten, Barton, Durstine & Osborn, Inc., 1810 Commerce, John J. McEntee, (Jack Hospers)

Binyon O'Keefe Warehouse Company, 2155 Oak Lawn, Milton B. Askew, (Jack Gidcumb)

Richard C. Ingram, accompanied by Mrs. Ingram, is presented award by Chamber President Avery Mays from the Board of Directors for achieving his Third Life Membership in the Dallas Chamber.

Jim Henderson welcomes top officials of Bankers Life Insurance Company of Nebraska who opened their first Texas agency on the day of the Lasso Club luncheon. Left to right: Mr. Henderson, New England Mutual Life Insurance Company; Richard Day, Director of Group Sales; James W. Lantz, Vice President and Director of Agencies; Don Sizer, General Agent; George Cook, President; William Hagen, Agency Supt.

Vice Chairman Dawson Sterling (Secretary of Southwestern Life Insurance Company) accompanied by Mrs. Sterling, receives the Board of Director's Award for Second Life Membership presented by (left to right) A. V. Harder, Senior Vice President, Southwestern Life Insurance Company and Avery Mays, President of the Dallas Chamber of Commerce. Seated at right is Membership Committee Chairman Bob Cullum.

Bond Oil Corporation, 2600 Republic Bank Bldg., Roland S. Bond, Jr. (Joe Warren)

Carpenter Paper Company, P. O. Box 5571, Harry Carpenter, Paul B. Reynolds, Norman Higgins, (Bill Simpson)

Clark, Reed & Clark, Adolphus Tower Bldg., Robert L. Clark, Wm. H. Clark, III, Wm. L. Keller, (Senator George Parkhouse)

Commercial Title & Abstract Company, Fidelity Union Life Bldg., Thomas L. Hart, James M. Shaw, Virgil Robbins, Ernest Sullivan, Harry Finley, (Jack Hospers)

Crane Longley Funeral Chapel, 6534 E. Northwest Highway, Jerome J. Crane, (T. J. Collette, Jr.)

Doran Lincoln Mercury, Inc., 6116 Lemmon Avenue, Ed Doran (V. P. Chandler)

The Farwell Co., Inc., 300 South Buckner, A. B. Carter, Geo. A. Linskie, Thomas Jones, S. S. Amons, (Roger Harris).

Francis I. DuPont Company, Mercantile National Bank Bldg., James Ned Jackson, (T. J. Collette, Jr.)

Holiday Central, 4010 North Central Expressway, John Manser, (Richard C. Ingram)

International Business Machines Corp., 2911 Cedar Springs, H. C. Wendler, R. R. Lucas, A. M. Goad, H. A. Ploch, J. R. McSween, (Jack Hospers)

Knox Oil of Texas, Inc., 1007 Slocum St., Charles E. Knox, Jr. (T. J. Collette, Jr.)

Lamar & Smith Funeral Home, Inc., 800 W. Jefferson, John King (T. J. Collette, Jr.)

Lawler's Cafeteria & Catering Service, 1124 National Bldg., Carlton Lawler, (T. J. Collette, Jr.)

Lobello & Matthews, 8420 Ames, W. T. Matthews, Sam Lobello, (T. J. Collette, Jr.)

Macatee, Inc., P. O. Box 838, George P. Macatee III, Jerry Porch, Vaughan Claterbaugh, Ted Hunt, (Bill Conklin)

Mangel's, Elm & Ervay, Mrs. Ave Horowitz, (Asher Dreyfus, Jr.)

Music Corporation of America, 2311 Cedar Springs, Howard McElroy (T. J. Collette, Jr.)

National Biscuit Company, 3223 Canton, B. H. Deer, Bill H. Stafford, Doug Gant, (Lee Kilgore)

Parke, Davis & Company, 7777 John W. Carpenter Freeway, R. F. Routt, (Thomas Finney)

Princess Belt & Novelty Company, 608 Jackson, Bill Fry, (Jack Gidcumb)

Rawlinson Electric Supply Corporation, 2823 St. Louis, Percy Rawlinson, (H. E. Bradshaw)

Restland Memorial Park, Restland Memorial Park Funeral Home, P. O. Box 4685, George Young, Harry Thompson, C. H. Shackelford, H. Earl Ralston, (Senator George Parkhouse)

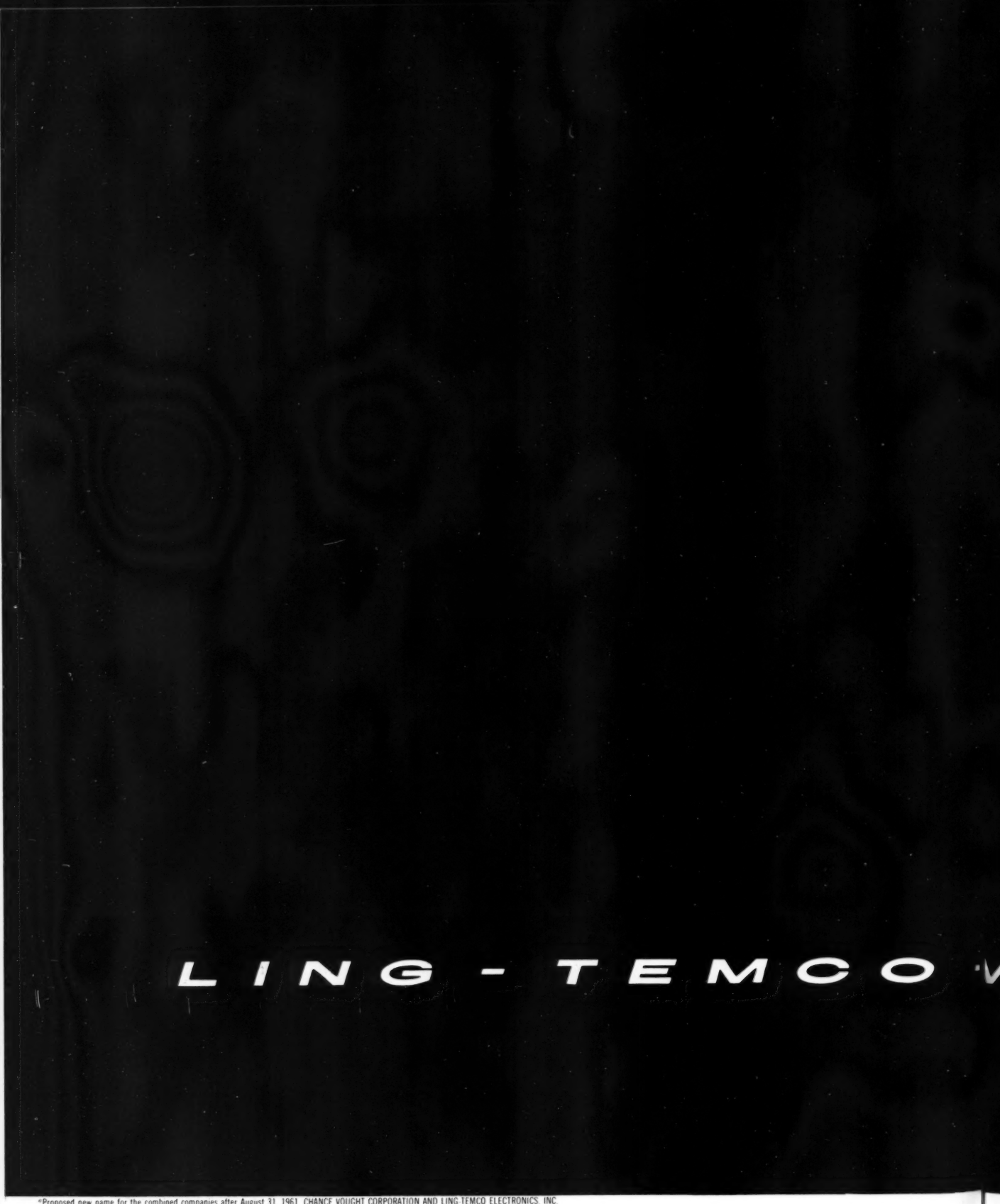
Rockwell Mfg. Co., 738 Mercantile Continental Bldg., E. D. Propps, (Carol Neaves)

S & L Construction Company, 10566 Spangler Rd., A. L. Leal, (George Richie)

Schepps, Wholesale Groceries, 2106 Cadiz, Abe G. Schepps, (Senator George Parkhouse)

Service Bureau Corporation, 4330 North Central Expressway, Tom L. Williams, (Jack W. Mynett)

Ed C. Smith & Bros., 4103 Swiss, W. G. Crockett, (T. J. Collette, Jr.)



*Proposed new name for the combined companies after August 31, 1961 CHANCE VOUGHT CORPORATION AND LING-TEMCO ELECTRONICS, INC.

The stockholders of Chance Vought Corporation and Ling-Temco Electronics, Inc., on June 30, 1961, approved plans for combining these two companies into a vast, new company — Ling-Temco-Vought, Inc., to be effective August 31, 1961.

Combination of these dynamic, Dallas-based organizations will link depth of capabilities with depth of management to meet the advanced challenges of electronics, space, communications, aircraft, missiles, industrial and consumer developments.

Ling-Temco-Vought will employ over 20,000 people (15,000 in this area) in seven basic groups: AEROSPACE SYSTEMS . . . ELECTRONICS . . . COMMUNICATIONS . . . COMMERCIAL AND INDUSTRIAL PRODUCTS . . . SOUND SYSTEMS . . . AERO SYSTEMS . . . INFORMATION HANDLING SYSTEMS.

This will be . . . Ling-Temco-Vought, Inc. . . . a new Dallas industrial leader to serve its community and nation through science.

from left:
James J. Ling
Chairman of the executive committee

Robert McCulloch
Chairman of the Board

Gifford K. Johnson
President

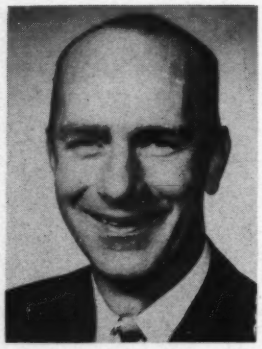
Clyde Skeen
Executive Vice-President

VOUGHT, INC.*

LTV

DEPTH MANAGEMENT FOR PROGRESS IN AEROSPACE ELECTRONICS COMMUNICATIONS AND CONSUMER PRODUCTS

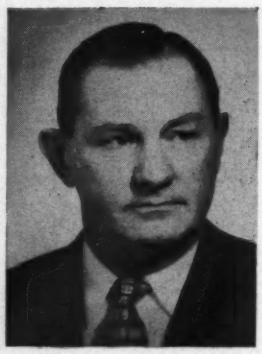
TOP HANDS...



GAIL RISCH
Carrier-Bock Co.
No. 2 Award

W. R. "Bill" CONKLIN
Mutual of New York
No. 7 Award

THOMAS FINNEY
First National Bank
No. 2 Award



JAMES W. LAYNE
Garland's Trophies
No. 14 Award

BOB GREENWALD
Goodwill Industries
No. 6 Award

PHILLIP JOHNSON
Reliance Life & Accident
No. 1 Award

JAMES K. ALLEN
First Assistant District Attorney
No. 3 Award

FLOYD MAYSE
Mayse Industrial Equipment Co.
No. 2 Award

T. J. COLLETTE
Mercantile National Bank
No. 2 Award

New members of the Dallas Chamber of Commerce include the following firms:

Construction

Gerald M. Miller-Builders, P. O. Box 17238; Carl Rusek (Roger Harris)

Morrow Wrecking Corp, P. O. Box 4573, Ft. Worth, Texas (Clif Moss, III)

Singing Hills Garden Center, Inc., 5250 Singing Hills Drive; Laszlo Pahany (Bill Skinner)

Professional

Wm. S. Reynolds, M. D., 1531 Medical Arts Bldg. (James Quick)

William R. Nail, Jr., D. D. S., 9777 Ferguson Rd. (D. B. Kleinschmidt)

Palmer & Palmer, 1200 Republic Bank Bldg.; Philip I. Palmer, Philip I. Palmer, Jr., and William T. Ward (Dale Reynolds)

Research Incorporated, 3508 Greenville Avenue; W. W. Horsman (Jack Gidcumb)

E. A. Rowan, 740 Rio Grande Bldg. (DeWitt Knapp)

Weldon B. Shrader, C. P. A., 467 Rio Grande Natl. Bldg. (Dale Reynolds)

White Advertising Company, 201 North W. 16th St., P. O. Box 609, Grand Prairie, Texas; Jack Ray (R. T. Lafferty)

Financial

Termplan of Dallas, 2000 Bryan; Carl Johnson(Frank King)

Individual

Charles P. Shelander, 1216 Hartford Bldg. (C. L. Shimek)

Manufacturing

Beverly Blue Print Company, 2508 Main St.; Frank A. Treadwell (Jack Gidcumb)

Dillon Steel Inc., P. O. Box 5743; Roy J. Dillon (Clif Moss III)

Hughes Steel Company, 3600 E. Main, Grand Prairie, Texas; L. W. Hughes (George Richie)

Aero Test Equipment Co., Inc., 8401 Chancellor Row; Gene C. Walker (John J. Hospers)

Walton Manufacturing Co., 1327 Plowman; Lee L. Walton (Carol Neaves)

Distributors & Wholesalers

Bernard J. Bird, 2657 Fondren Drive (George Richie)

Berger Millinery Company, 915 Commerce; Sam Berger (Jack Gidcumb)

The Christian Brothers, 2115 Argonne, Houston, Texas; Al Chandler (Herbert Lee)

Pepsi-Cola Bottling Co. of Dallas, 2201 Leonard; Sidney Levit (Joe Collins)

Oil

Bruce Calder, 1818 Rep. Natl. Bank Bldg. (Joe Warren)

Transportation

Air-India International, Merc. Continental Bldg., Suite 722; A. Malcolm Whildes (Jack Mynett)

Retail

B & G Motors, 4008 Ross Avenue; Bill J. Briscoe (Frank King)

Philip A. Dill, Inc., 1235 Ft. Worth Ave.; Philip A. Dill (Bruce Hedrick)

Exchange Park Package Store, 200-C Exchange Park; Harry Todd (Jack Gidcumb)

Jimmy's Liquor Store, Inc., 4910 Military Parkway; James R. Bulger (Herbert Lee)

Paul Robinson-Paint & Wallpaper, 4424 Lovers Lane; Paul Robinson (Bill Skinner)

Shanks Dairy Way, 1941 Record Crossing; Harvey Shanks (Bill Craig)

My Florist, 5630 Lemmon Ave.; L. M. Marshburn (Jack Gidcumb)

Spartan Department Stores, 322 W. Kiest; George W. Eble, David Bryan, Saul Cohen, Tim Binder and Jim Rubenstein (Asher Dreyfus, Jr.)

Real Estate

Campagna Brothers, 6700 Gaston Avenue; Johnny Campagna (T. J. Collette, Jr.)

H. E. Guisinger Real Estate, 2410 South Zangs Blvd.; Harman E. Guisinger (DeWitt Knapp)

H. J. Solomon, 1411 Verano (Thomas Finney)

Sid Blackburn, Realtor, 6270 E. Mockingbird (Loyd Devenport)

Mirkes Properties, Inc., 2626 W. Mockingbird; Karl R. Mirkes (Kenneth Tapley)

Insurance

Robert J. Bertrand, 950 West Mockingbird Lane (A. R. Mozisek)

Home Owners Insurance Co. 1414 Dallas Federal Savings Bldg.; Ed F. Vanston (James Cauthen)

Standard Life & Accident Ins. Co., 2133 McKinney Ave.; Rayford L. Bolin (R. T. Lafferty)

Service

Mart Secretarial Service, 2100 Stemmons Freeway; Mary Donnell (James Cauthen)

Pest Rid Exterminating Co., 6724 Blessing Drive; John B. Sypert (Dale Reynolds)

Riley Letter Shop, 914½ Main St.; W. T. Miller (T. J. Collette, Jr.)

The Thomas System, 732 Natl. Bankers Life Bldg.; S. J. Newman (Jack Clark)

Mexican Wholesale Tour Operators, Mariano Escobedo 738, Mexico 5, D. F.; Salomon R. Sacal (Richard C. Ingram)

McMurray Automotive Service Center, 3732 Maple at Oak Lawn; George E. McMurray (Loyd Devenport)

Fulton Employment Service, 411 Davis Bldg.; Evelyn Fulton (Jack Gidcumb)

Committeeman of the Month

JACK D. GIDCUMB

In July, Jack D. Gidcumb has received two outstanding awards from the Dallas Chamber of Commerce. Not only has he been selected as the Committeeman of the Month, but he has also been given a life membership in the Dallas Chamber of Commerce for bringing 100 new members to the organization within twelve consecutive months.

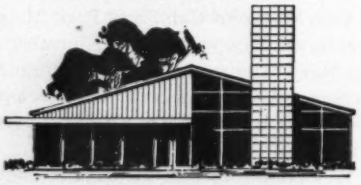
Born in Dallas in 1917, Gidcumb is a life-time resident of Dallas.

He majored in Business Administration at Geneva College in Beaver Falls, Pennsylvania and later at Southern Methodist University. He is a graduate of the Insurance Marketing School of S.M.U. and is currently working on his C.L.U.

Since joining Girard Life Insurance Company in March, 1957, Gidcumb has consistently been a top producer in his company and has received numerous awards for his business acumen. He holds the position of Assistant Manager of the Company's Dallas Branch Office.

Jack, his wife Dorothy, his daughter Carol, and his son John reside at 3406 Kings Road. He is active in the Stephen J. Hay P.T.A., has just completed a term as Cub Master of Cub Scout Pack 21 and is entering Troop activity, is a member of the Navy League and the Better Business Bureau. Also, Gidcumb was recently chosen to serve on the Dallas County Grand Jury.

A Vice-President in the Central Dallas Lions Club, Jack is an untiring worker in the Dallas Chamber of Commerce as his new honors indicate. Jack has served on the Membership Committee of the Dallas Chamber since January, 1957, and he received the award of "Committeeman of the Month" by sponsoring a total of 48 memberships during June. When he received his Life Member Award at the luncheon on July 12th from the Board of Directors, he became Life Member #43 in the history of the Dallas Chamber of Commerce.



Renaissance

(Continued from Page 29)

the Southwest. Such laboratories are the seed from which new technological industry will rise.

Having become aware of this situation, community leaders and university educators of the Southwest are mobilizing to correct it. Their objective is to increase the number of doctoral degrees from Southwestern institutions from the present total of a little more than 400 per year to some number like 2,000 per year in a period of fifteen years — let us say by the year 1975. Advanced education in the Southwest would then be brought more nearly, though not yet completely, in line with the North, Northeast, and Far West.

To accomplish this purpose, it is proposed to undertake simultaneously all of those measures that experience in other regions has shown necessary to attract and retain capable scientists and technologists. As a focus of action, the Graduate Research Center of the Southwest has been incorporated as a non-profit institution under a charter from the state of Texas. A campus site has been chosen. Ground will be broken in the autumn of 1961, and half a dozen or more buildings should be up within the succeeding three years. During the present formative period, the Center is headquartered as a guest of Southern Methodist University, which is now in the process of creating a Graduate Research Center of its own. Indeed, it was SMU's experience that suggested the need for an invigorated regional atmosphere in which individual schools could find respect and encouragement for the intellect.

If the southwest is to have 2,000 doctoral graduates a year by 1975, there will first have to be some 6,000 or 7,000 doctoral candidates in residence at the graduate schools. Proper instruction of these young people will require some 1,500 professors on the doctoral graduate faculties of the region. All this must be entirely apart from the students and professors required to satisfy the needs for the master's degree and for other graduate and post-doctoral objectives. Nor can the liberal arts colleges be neglected.

How is this explosion of the mind to be controlled?

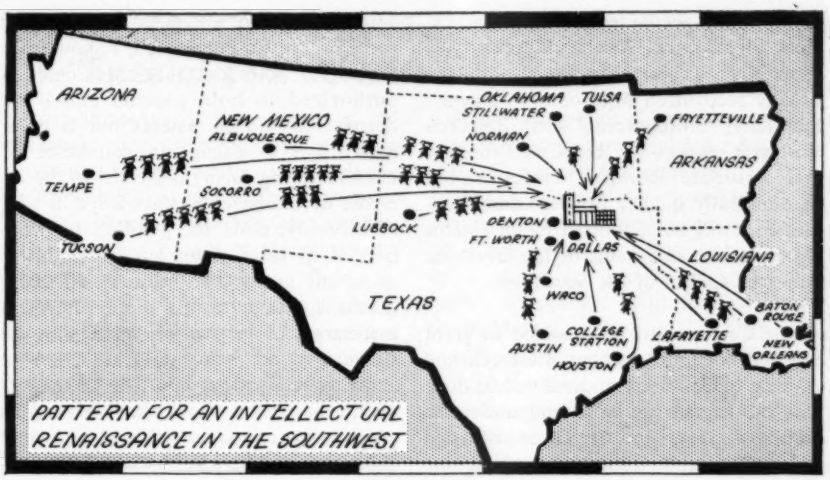
The Graduate Research Center of the Southwest has established a Division of University Cooperation to derive a regional plan from the individual fifteen-year plan of seventeen to twenty southwestern universities that are now expanding or are capable of expanding graduate education. Each of those universities will need to find means of acquiring research facilities and faculty for their own growth. It is the function of the University Cooperation Division of the Graduate Research Center of the Southwest to aid in this search, and to cut red tape that now entangles interchange of faculty among the several schools.

Not all institutions will decide to participate to the same extent. An early problem, then, is to determine what is feasible for each individual school to undertake during the next decade. Such questions as these must be asked: What should the image of university "A" be five and fifteen years hence? What should be the evolution of emphasis in its proportion of graduate to undergraduate education. Into what areas of knowledge can university "A" reasonably extend its efforts in light of existing faculty skills at a rate that does not diminish the level of scholarship? What costs will be involved for faculty and facilities in each of the planned fifteen years, and what should be the logical origin of the needed support from private, state and federal sources?

SMU has almost completed a study of these questions to guide its new Graduate Research Center. Texas A. and M. has just announced a similar study, to cover the next year. Tulane, Texas Tech, Texas Christian, Oklahoma State, and the University of Oklahoma are among other schools that have committed themselves to participate in the regional scheme.

The key to this ideal of a modern renaissance is diversity, with each university and its contiguous community assuming responsibility within the framework of its own self-interest to fulfill its part in the regional plan. But within this framework of independence and diversity is the determination of the academic community to create the intellectual climate in the region that can benefit all.

I emphasize that this climate can exist only on a regional scale. After all, Harvard, with its world renowned distinction in learning, has risen in the midst of a strong intellectual atmosphere in the Northeast. I remind you that Harvard is surrounded by MIT, University of Massachusetts, Boston College, Boston University, Brown, Northeastern University, Radcliffe, Wellesley and Williams. Only a little further away are Cornell, Columbia, Pennsylvania, Penn State, Yale, New York University, Brooklyn Polytech, City College of New York, Stevens, Rutgers, Rensselaer and others.



In the center of this whole complex in the Northeast is the Brookhaven National Laboratory, which, with its very advanced facilities, serves all the universities in the region. It provides to the faculties and to distinguished scientists of industry, an opportunity for researchers beyond the capabilities of their individual institutions.

The objective of Brookhaven is to supplement, not to duplicate, the research opportunities of the universities. Its purpose is to provide visiting faculties with facilities that are not available at their universities but are necessary to advancement of their research. Moreover, Brookhaven provides opportunity to attack long and difficult scientific problems continuously and with adequate staff and equipment.

In general, Brookhaven's specialized facilities are not suitable for any one university campus. Indeed, the great 33-billion volt nuclear particle accelerator is unique in the world. Its cost of $32 million is an investment requiring continuous operation to justify. Consequently, no one university could supply the very large staff of scientific specialists and operators who must work around the clock without completely warping its other educational activities. Such a facility would "run the university" rather than the university running the facility. As a cooperative venture, however, with a few faculty members from each of many universities, such a facility can be employed with efficiency. Brookhaven has become indeed a university for professors.

I have expatiated on the Brookhaven experience for two reasons. My first reason is familiarity. I was affiliated with Brookhaven — itself a university sponsored by nine northeastern universities — from 1950 until the end of 1960, when I accepted the presidency of the Graduate Research Center of the Southwest. My second reason for detailing the Brookhaven operation is that the Graduate Research Center of the Southwest will include an elaboration of the Brookhaven idea adapted to the needs of the southwestern region.

Alongside its Division of University Cooperation and linked closely to it, the Center will maintain a Central Research Facility for the purpose of conducting basic scientific research directed toward solution of problems in various areas of science not now well developed on the national scene. The Central Research Facility will consist of whatever number of divisions, departments or laboratories may prove to be appropriate. However, instead of following the traditional organizational pattern, with departments of physics, chemistry, biology, etc., the research objectives will be made the foci of organization, so that a department or a laboratory may embrace all or as many of the various disciplines of science as necessary to encompass the objective.

Among the initial working units of the Central Research Facility now being developed, for example, are:

A laboratory of all the sciences that bear upon an understanding of the Earth and the other planets of the solar system.

A laboratory that will bring together all available facts that might contribute to the creation of new materials.

A laboratory that will examine everything around us at the fundamental level of their constituent molecules.

A laboratory that will explore the knowns and unknowns of electronics and radiophysics.

Among the specialized research facilities will be the high-flux nuclear reactor to supply neutrons in support of many aspects of research in the region.

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Renaissance

(Continued from Page 29)

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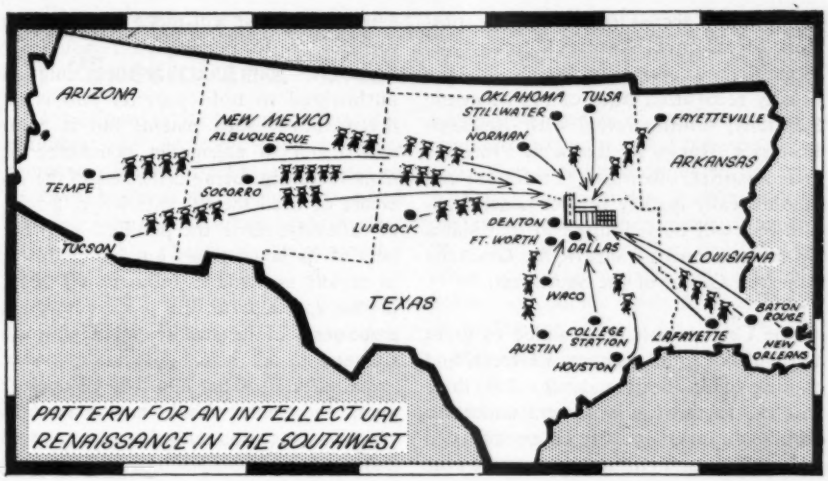

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A laboratory that will bring together all available facts that might contribute to the creation of new materials.

A laboratory that will examine everything around us at the fundamental level of their constituent molecules.

A laboratory that will explore the knowns and unknowns of electronics and radiophysics.

Among the specialized research facilities will be the high-flux nuclear reactor to supply neutrons in support of many aspects of research in the region.

(Continued on Next Page)

As a fully accredited academic institution, the Central Research Facility is assembling a permanent staff with the usually recognized titles of the acedemic heirarchy, commencing with Research Professor. Ranks of Research Professor and Associate Research Professor will automatically qualify for permanent tenure, and will be supported in that status by the permanent funds of the Graduate Research Center of the Southwest.

The Center must be qualified to grant but will not grant degrees. Research and training of advanced students will be done in close association with, and under the formal supervision of, those affiliated universities and institutions where the students are registered and from which they will receive degrees in recognition of their intellectual achievement.

To reinforce the cooperative effect, the Graduate Research Center will assume, as part of its regular operating budget, the costs of bringing a number of faculty members of affiliated universities and institutions into residence at the Central Research Facility for one or more years to carry on research. Such faculty members, when in residence at the Central Facility, will be designated as Visiting Professors or whatever lower rank corresponds to their current university appointments. This arrangement will permit the affiliated institutions to augment their faculties correspondingly over the visiting interval.

Simultaneously, an exchange will take place in the opposite direction. All faculty of the Central Research Facility will be expected to teach advanced courses of their choosing equivalent to at least three semester hours annually measured over any two or three years. Some of this teaching will take place at the Central Facility, the remainder at other universities of recognized standing. Usually the courses will be without cost to the universities concerned. When undertaking such teaching, the Central Research Facility faculty will be fully responsible to the host university for maintenance of academic standards of the course and related examinations.

An initial endowment of $20,000,000 is being sought to cover the cost of buildings plus operational expenses for the first five "founding" years of the Graduate Research Center of the Southwest. Private sources with pride in the region and faith in its future are coming forward generously. Among the givers are industrialists and industries willing to guarantee the Center's financial independence in return for the contribution they know the objectivity and impartiality of an advanced academic institution will make to their own fortunes. In this connection, I should not neglect to point out that the Center is authorized to hold patents and issue license under such patents but is committed not to engage in commerce or manufacturing. Being dedicated to the increase of fundamental knowledge, it will, of necessity, move the practical by-products of its laboratories out into industry as rapidly as possible. Industry will share in the speedup of this process through association of its own scientists with the Center.

At the end of the first five "founding" years, the Center should have earned its place in the region, and that place should justify the additional $40,000,000 endowment plus annual contributions estimated to be necessary for its continuance in perpetuity. By maintaining itself with a steady balance of thirty percent private funds and seventy percent research contract fees, the Center will be free to encourage financial support of its affiliated schools. For a successful regional renaissance, these affiliates will need nine dollars for every dollar invested in the Graduate Research Center itself.

The facilities of the affiliated schools naturally will wish to speak for themselves as to the degree of their individual participation, their choice of study areas, the objectives they prefer to pursue alone or in concert with groups of other schools. Their announcements will come in due time. Already, however, the climate is beginning to change in response to their initiative. Members of the regional governing board of the Graduate Research Center of the Southwest were announced on July 1. The first two laboratories of the Central Research Facility — labs for the study of geophysics and of new materials — soon will be brought into existence in rented quarters in Dallas to work on fulfillment of contract research.

The scope of problems ahead must not be underestimated. With the Northeast and the Far West already well established in their thirty-year lead, Southwesterners of the highest capability will inevitably be under strong compulsion to migrate to where their talents might perhaps receive more sympathetic attention. Yet one cannot underestimate the spirit of an aroused community.

I have based my discussion of the importance of the Graduate Research Center of the Southwest solely on regional self interest. An equally compelling argument could be made in the national interest, involving the competition of our system

(Continued on Page 69)

Dallas Has Growing List Of "Specialized" Electronics Firms

In addition to its manufacturers, distributors and electronic factory representatives, Dallas also has a growing list of organizations specializing in sound systems, security, inspection and certification and other phases of the electronics industry.

Among these is Frazier Inc., formerly International Electronics Corporation, manufacturers and national distributors of high fidelity loud speakers, commercial horns and lecterns.

Jack Frazier is an internationally known acoustics and sound engineer and consultant. In 1939 he designed and built commercial horns for Madison Square Garden which are still in use. Mr. Frazier has been in business in Dallas since 1935 and started manufacturing in 1953.

The firm installed the 5-channel stereo sound system for the Pan American Exposition in Dallas in 1937. It continues to operate special event sound units for the Gulf Oil Corporation. The firm also installed systems for the Billy Rose Aquacade in Cleveland and Casa Manana. Other installations include the Muzak Central Systems in Dallas, Houston, San Antonio, Mexico City and San Juan, Puerto Rico and 57 radio stations in the United States including KIXL in Dallas. The firm also has a large number of sound installations in Dallas including Dallas Memorial Auditorium, the Live Stock Arena at Fair Park, the SMU Field House and others.

Carver Sound Equipment Company is another pioneer Dallas firm engaged in engineering, installation and distribution of public address systems, intercom systems, multi-channel radio systems, multi-outlet TV antenna systems and closed circuit TV systems. This firm was founded in 1926 and was bought by its present owners, Blair Mercer and Clarence R. England in 1949.

One of Carver's most outstanding recent installations in Dallas was a closed circuit TV system for American Air Lines at Love Field Terminal. This involves 16 viewing monitors controlled from a central dispatcher's office. Changes in arrivals and departures are posted immediately saving thousands of hours of manual operation each year.

The firm also handled a recent installation for the Republic National Bank between eight drive-in windows on Live Oak and several windows inside the bookkeeping department of the bank for verification of signatures and balances. Presently, Carver Sound Equipment Co. is installing a multi-purpose public address, paging and background music system for Six Flags over Texas. The firm also has other extensive installations in Dallas hotels, educational institutions and public buildings.

Nelson Electronics Engineering Company Inc. offers complete laboratory facilities for maintenance and certification programs as required by the military. This firm serves prime and sub-contractors on government work who do not find it economical to install a $50,000 laboratory and staff it with technicians for use only twice each year.

An estimated 40,000 pieces of military gear require certification semi-annually. Outside of the largest major contractors and the National Bureau of Standards at Washington D.C. or Boulder, Colorado, Nelson Electronics maintains the only service of this kind available in the Southwest through their Dallas and Houston laboratories.

Nelson Electronics handles repair work and certification for such firms as Vought Electronics, Convair, Ling-Temco, Collins, Continental Electronics, American Telephone & Telegraph, Southwestern Bell Telephone, Braniff Airways, Trans-Texas Airways and others. Police departments throughout the state send radar meters here for repair.

Smith Detective Agency and Nightwatch Systems of Dallas and subsidiary companies are also engaged in operation, maintenance and installation of electronic protection systems on a local, national and international basis. Their Dallas operations involve electronic devices that detect everything from smoke to intruders. The time factor in preventing burglar, fire or water damage has brought electronics to the fore in the security field. A variety of electronically based systems serving more than 2,500 firms tie into the central office in Dallas.

These include proximity alarm systems involving such metal equipment as filing cabinets and safes, acoustical systems that pick up noise, ultrasonic alarm systems and a variety of other systems that actuate electronic devices. The Smith Detective Agency also maintains a large central office in Mexico City and extensive protection systems over the nation.

Manufacturers

(Continued from Page 41)

Industries, Inc., a family of fourteen companies prominent in electronic, petrochemical, power, defense, and general industry.

Geotechnical Corporation

Engaged in seismology, distributing earthquake-detection apparatus to the U. S. Government, foreign governments and universities throughout the world. In 1960 constructed $200,000 installation at Ft. Sill with instruments to detect earth movements in millionths of an inch, to be used in monitoring disturbances anywhere in the world. Much of its work is classified. Budget allocation for R&D totals about $1 million annually. Among the 400 employees are 150 research technicians, engineers and mathematicians. Present plant occupies 56,000 square feet, with 7,800 feet of warehousing. An extension of 20,000 square feet is now under construction. Present contracts total approximately $15 million.

Space Corporation

Manufactures ground-support equipment for the aircraft and missile industries — aircraft testing devices, actuator systems for ground-handling of missiles; engine test and electro-mechanical equipment, instruments and propulsion controls. Has both military and civilian markets. Employment averages 300; building area, 95,000 square feet.

General Electrodynamics Corp.

Called the nation's largest single manufacturer of the TV vidicon camera tube; such a tube was in the externally mounted TV camera which recorded the historic space flight of Ham, the astrochimp. Makes several types of special-purpose tubes, including scan-conversion tubes to transfer radar pictures to TV, and units for induction and dielectric heat-treating by radio frequency. Has both a defense and civilian market as direct seller and as subcontractor. R&D gets 15% of every sales dollar. Employs about 100; 32,000-square-foot plant.

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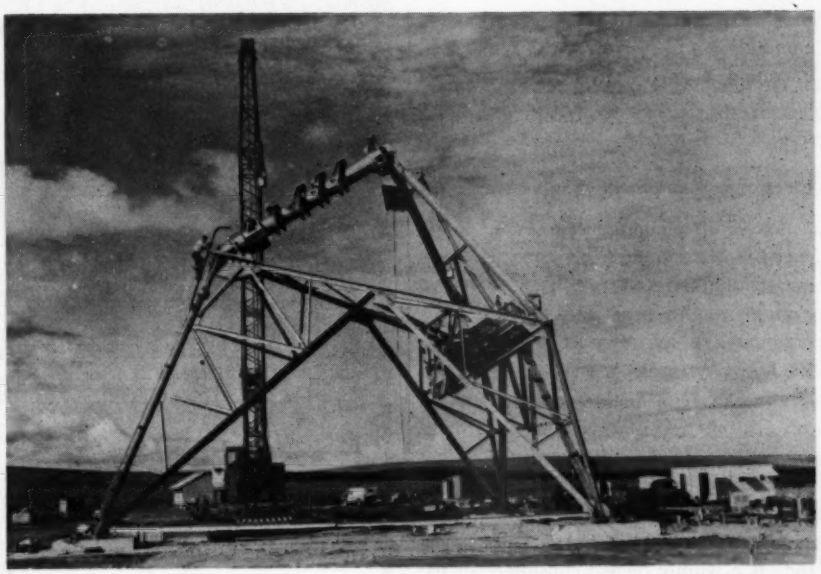
AirBorn, Inc.

Miniature connectors for both military and civilian markets. Completely integrated manufacturing service for precision mechanical, electronic and instru-



Alpha Corporation activities take crews of engineers far afield. Above is a construction job at Woomera, Australia, tracking station for space surveillance.

ment component parts and assemblies. Employs 25 in 8,500-square-foot plant.

Arlot Electronics

Makes twenty-seven different kinds of electronic products, including photoelectric cells, switches, and instrumentation. Employment fluctuates from 10 to 20; 6,000-square-foot plant.

Atlantis Electronics Corp.

Manufactures manual, semi-automatic, and automatic test equipment for the semiconductor industry. Atlantis machines perform up to 15 separate checks for voltage and current leakage on up to 1,200 transistors a minute, sorting them into 46 categories. Has also developed a machine for winding toroid cores, memory-storing units for computers; working on a new device using transistorized cicuitry aimed at the mass consumer market. Employs over 30 workers; 10,000-square-foot plant.

Communications Industries, Inc.

A diversified electronics firm with annual sales of approximately $5 million. It employs, including subsidiaries, approximately 150, 50 of which are based in Dallas. Home office plant uses 12,000 square feet. In addition to three Dallas manufacturing subsidiaries are two Dallas distributing subsidiaries, Com-Supply, Inc., and Communications Engineering Company. Other divisions are located in Midland and Philadelphia, Pa.

Decibel Products, Inc., subsidiary of CI, manufactures antennas, transmission lines and accessories for mobile two-way communications.

Mid-West Communications, subsidiary of CI, manufactures special RF power amplifiers and transistorized control units used in radio communications.

Tel-E-Mote, division of CI, manufactures transistorized control equipment, automatic alarm systems and telemetering equipment for industrial purposes.

Curtis Mathes Manufacturing Co.

From black rolled steel to the finished chassis, this company manufactures radio, stereo, and TV sets (cabinetry and final assembly in Athens, Texas), employing over 300 in a 101,000-square-foot plant and shop.

Diversa Electronics

Manufactures electronic devices for statistical quality control and process control, using Wald Theory of Sequential Analysis: various automation controls; an electro-mechanical visual aid unit for educational work with the deaf. Emphasis on design, assembly and testing, with much of the component work contracted out. Employs 20; 4,500-square-foot plant.

Electronic Devices Co.

Design engineering, producing silicon rectifier power units; sub-contracting of sub-assembly for defense; automatic con-

(Continued on Next Page)

trols and guidance systems, portions of computers, and microwave systems. Employment averages 5; 1,000-square-foot building (7,500 square feet reserve space available).

Electronic Equipment Engineering, Inc.

One of three companies in the U. S. engaged in custom-designed aircraft instrumentation and cockpit radio control equipment, this firm sells to such large organizations as Bendix and Collins Radio and to some of the world's largest airlines. Designs, engineers and manufactures all types of aviation electronics equipment (105 products). Founded 1955, the company had about $1 million in sales in 1960. Employs 50 in 8,000-square-foot plant. Pan-Air Electronics, Inc., is a wholly owned subsidiary in the same business.

Electronic Fabricators

Manufactures printed circuits, does electronic assembling, design, and engineering; primarily commercial customers, some military. Employs 12; 5,000-square-foot plant.

Electronic Specialties Co.

Manufactures portable transistorized telephone amplifier under trade name "Ampliphone." Distributed nationally. Employs 15 in 8,500 square feet in two plants.

Gruen Manufacturing Co.

Precision sheet metal fabrication for the electronics industry — prototypes — panels, chassis, boxes, consoles, fabricated assemblies. Certified spot welding and metal arc welding. Employs about 16 in 10,000-square-foot building.

International Data Systems, Inc.

With emphasis on quality engineering and technical preparation, firm is in three defense fields: telemetry, guidance controls, and instrumentation. Expansion planned into industrial instruments. Prime contractor for NASA. Also sub-contractor for large local manufacturer. Producing 216-channel multiplexer telemetry systems for the Saturn, phase-sensitive demodulators for the Scout, and D. C. amplifiers for Minuteman. Employs 25 in 6,000-square-foot building.

Jadaro Machine Products

Precision machining of mechanical parts for electronics equipment (heat sinks, posts, shafts, etc.) sub-contract work for large manufacturers. Employs 25; 5,000 square foot plant.

Lone Star Electronics Co.

From raw material in the form of tubular steel and aluminum, custom designs and manufactures base station antennas UHF systems, one of a dozen such operations in the U. S. Has unique communications type crystal control signal generator (only known manufacturer in North America — significant Canadian exports). Total production for commercial market. New products being planned. Employment averages 5; 2,000 square foot plant.

Maxwell Electronics Corp.

Manufactures two-way communication systems, hearing aids. Government contracts totaling over $2½ million are in production stage for frequency measuring, transmitting and teletype system equipment. Present employment of 35 will increase to 100 when new production begins. Plant just doubled in size to 12,000 square feet. Includes complete Univac data processing system.

Missile Systems Corp. of Texas

Emtex Division, with two plants is engaged in engineering, design and fabrication of precision electro-mechanical devices for weapons systems. Products include electronic enclosures, cabinets, missile launchers, etc. Employs 200 in 80,000 square feet.

Music and Sound, Inc.

Primarily makes radio (AM & FM), phonographs, stereo and amplifiers (background music systems); intercoms, contract electronics — engineering circuitry and producing special chassis. An appendage to the main plant, Acme Metal Products, Inc., does metal stamping for electronic application, speaker grilles, etc. Employs 20; 11,000-square-foot plant.

Plextron Corp.

Manufactures printed circuits; does plated thru-holes; component mounting; precious metal plating; sub-contracting for defense plants. Employment averages 15 in 3,500-square-foot plant.

(Continued on Next Page)

Rudmose Associates, Inc.

Manufacturers in the specialized field of acoustics related to industrial hygiene — automatic audiometers, sound analyzers, noise timers, "electro-acoustic ears" (for checking gross calibration of audiometers). Has machine shop (5% local job shop work; 95% in producing parts for own products). Employs 18; 4,500 square foot plant.

Saturn Electronics Corp.

Sub-contract work for aircraft and oil exploration equipment — magnetic components, transformers, filters, inverters, toroids. Employs about 10 in 1,500-square-foot plant. Planning to relocate in expanded plant in Garland.

Scientific Service Laboratories, Inc.

Develops and manufactures electronic systems primarily for hydrographic engineering; significant Naval development work: MAP (precision navigating system), deep sea temperature profiler, marine hydrophones, sonic profilers, liquid level controllers, various automatic control systems, new development is a leak detector for gas lines employing infrared techniques in a mobile unit. Employs about 40 in 6,000-square-foot plant.

Summers And Mills, Inc.

Principal products are in oilwell logging equipment (specialists in acoustical logging); also nuclear radiation counters, personal radiation monitors, tritium monitors for atomic installations such as Oak Ridge; underwater sound detectors and low frequency units for seismic use; design and manufacture of transistor production testers; specialized instrumentation. Sub-contractor for larger electronic manufacturers. Employs 20 in 8,000-square-foot plant.

Texas Research & Electronic Corporation

Began operations in September, 1960 to purchase existing businesses in the electronics field. Early in 1961 the company signed an exclusive licensing contract with Union Carbide Consumer Products Co. for the research, development and marketing of electrochemical solion devices. Solion applications include tranducers, integrators, detectors and amplifiers. Twelve persons now employed in laboratory with enlarged facilities and manufacturing activities anticipated for the near future.

(Continued on Page 66)

Textool Products, Inc.

Designs, develops and manufactures equipment for semiconductor industry; also graphite boats or jigs; transistor test sockets; berrylium copper springs. Employs 50 in 15,000-square-foot plant.

Thermolloy Co.

Designs and develops heat sinks for mounting transistors. Controls production of units on a contracting-out arrangement.

Unitron, Inc.

New business, presently occupying 2,000-square-foot plant, developing solid-state power conversion equipment for aircraft and missiles. Has under construction 8,000-square-foot building for completion in September. By summer, 1962, will be in full production with employment of 65. Work primarily defense; consumer market being investigated.

Willard Manufacturing Co.

Makes oil field equipment, commercial laundry equipment controls, and miscellaneous electro-mechanical devices. Employs 5; 3,200-square-foot building.

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Hunt Electronics Co.

Newly formed electronics manufacturer will occupy 15,000-square-foot plant. Sample production to begin in October when company will become actively engaged in manufacture of semi-conductor devices, high voltage, high current silicon controlled rectifiers for military and industrial applications.

Beta Instruments Corp.

Subsidiary of Cadre Industries Corp., Endicott, N. Y., has just opened 8,000-square-foot plant with eight employees primarily in research and development of electronic products. Firm plans to design and manufacture sophisticated test equipment, also consumer products, including transistorized amplifiers.

Astro-Tex, Inc.

Subsidiary of American Concertone, Inc., of Culver City, Calif., just opened Dallas-area plant with production facilities for electrical, electronic and electro-mechanical subcontract work.

*

Western Electric Company

While primarily a distribution center, Dallas branch plant engages in repair, modification and assembly of various types of telephones, cables and switchboard equipment. Handles all major installations for Southwestern Bell, including new Taylor exchange building able to serve 46,800 telephone lines. Dallas office supervises work of 1,050 technicians in Texas and Arkansas. Dallas Distribution Center employs approximately 300 in 150,000-square-foot plant and warehouse.

General Electric Apparatus Service Shop

Regional repair center covering North Texas, Oklahoma and parts of Louisiana, Arkansas and New Mexico, working on equipment from tiny meters to huge generators and electric motors and electric locomotives. Performs trouble-shooting in field as well as shop repairs and modifications.

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Electro-Science Investors, Inc.

Significant in the Dallas electronics scene is this investment company which has quickly mushroomed into one of the nation's leading companies founded under the Small Business Investment Act of 1958. It has an anticipated capitalization of $15 million, and its stock, traded over the counter, has risen from its original $11 last fall to around $40 today. The company was organized in August, 1960, with James J. Ling as chairman of the board and Joseph F. McKinney as president.

To date ESI has made a total investment of over $8 million in nine partner companies. The first equity capital went to Communications Industries, Inc., of Dallas. In it ESI has committed over $1 million and holds a potential common stock interest of 34%. This spring ESI became the first of some 125 SBICs over the nation to announce a spin-off of stock in one of its partner companies, Tamar Electronics of Gardena, Calif.

Next month, ESI will move into new quarters in the First State Bank Building of Richardson on Central Expressway. Objectives of the firm, in addition to furnishing capital, are to supply financial, management and advisory services on a fee basis and to make long-term loans.

Women in BUSINESS

By Larry Grove

Miss Patricia L. Brown

Her reading taste runs the range from Redbook to scientific journals and translations from Russian papers on theoretical physics.

She likes her music longhair on a hi-fi set she built by herself.

An evening of relaxation may find her at a lathe, turning a piece of wood into a lamp base or a salad bowl.

Miss Patricia L. Brown is brainy, blonde and chic. She looks for the world like the girl you wished lived next door. And all this mattered not one whit last month when the Society of Women Engineers met in Boston and chose her president of the 700-member organization. She was the first Texan and the first Southerner ever chosen for the honor.

In her regular capacity as Information Services Supervisor for Texas Instruments' secrecy-cloaked Semiconductor-Components Division, Miss Brown is, at once, writer, librarian, detective, advisor, consultant, and supervisor. If that definition leaves her role mysterious to the layman, an example or two may help:

A TI scientist comes to her with a germ of an idea on how he hopes to meet a particular scientific problem that could, for all we know, be quite vital in what we laymen call America's race against Russia for the scientific frontier.

Miss Brown prepares a set of papers for the scientist on what already has been done in the particular direction he hopes to take—"the state of the art," as Miss Brown phrases it.

The information may come from governmental sources or private companies through reciprocal agreements on sharing of information. Or it may have been hidden in some little-known paper delivered by a professor before some colleagues. And it may have come from Soviet sources.

"It's detective work, and rather interesting," she says, with remarkable understatement.

To keep the TI scientists first-rate in current awareness with the least possible cost in time to them, Miss Brown prepares, with a staff of six, a bulletin every two weeks which lists pertinent works available in their specialized fields.

That requires a ravenous reading program of her own—in what she calls "oddball journals" that most of the TI engineers might miss without such inside-the-plant service. She peruses English translations, among others, of the *Russian Journal of Inorganic Chemistry*, and abstracting journals such as *Physics Abstract*.

Of the Russians, Miss Brown says, "They've done some good work in theoretical solid state physics." She didn't elaborate on how the Russian material is acquired.

And her position at TI isn't her first in dealing with top-secret projects. At one point in her career, she was senior technical writer-editor for the atomic power division of Westinghouse and a staff engineer in the large ship reactor program.

She prepared the "Reactor Hazards Report"—one of several of her works that will be read closely by a select few but never will hit the best-seller lists. She also authored the first edition of *Women in Engineering*, published by the Society of Women Engineers in 1954, and "How to Locate and Obtain Government Information Reports" that makes up Chapter 23 in the Reinhold book, *The Technical Report*, in the same year. She collaborated in the writing of "Training of Literature Chemists" published by the American Chemical Society.

She was the first woman engineering graduate at Southwestern Louisiana Institute, where she took honors; she took a masters in chemistry at the University of Texas in 1949 and she did a turn at teaching at Smith.

The early interest in the scientific fields may have come from her father, a diesel engineer in her native Louisiana. That she combined her quite-considerable writing skill with her training in chemical engineering is one of those pleasant coincidences—pleasant for Texas Instruments, a company which searches for unusually skilled personnel. And, considering the nation's acceptance of the challenges in science, lucky for Dallas and the nation.

Direct Distance Dialing

(Continued from Page 48)

Laboratories, for much of its "brain power."

Billing information for all DDD calls will also be done electronically. A recording device punches all the necessary data on a continuous tape as a call is made, including the date and time; the called number and city, and the length of the conversation.

The tapes will be sent daily to a central accounting center to be computed electronically for billing purposes. In Dallas, this center is located in Oak Cliff, at 320 East Jefferson.

"Since DDD is for station-to-station calls," Davison said, "other calls, such as person-to-person, collect calls, and calls made from pay stations, will continue to be handled by long distance operators. For technical reasons, the service will be available only to those who have either a straight line or two-party service.

"Installing DDD at this time is another step in our program to give Dallas the finest possible communications service," Davison added.

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Renaissance

(Continued from Page 58)

of free enterprise in the cold war. The United States cannot meet the challenge of communism with educational opportunities for only half of its people in only three regions of the country: the Northeast, the North and the Far West.

Totalitarian endeavor to smother us through a scientific suzerainty cannot be permitted. This challenge is an intellectual one, to determine who best can advance human thought and turn it to the benefit of the community. I am happy to say that I believe that the Southwest is about to rise to this challenge of the advantages that flow from the command of ideas.

Alpha

(Continued from Page 37)

In April, 1959, the projected Alpha Corporation became a reality. The site selected was in Richardson, east of Central Expressway on Arapaho Road. Alpha's headquarters building was constructed on a twenty-acre plot adjacent to the grounds of the Engineering Building of Collins Radio Company's Texas Division. Within a year, the first building was doubled in size to handle increased personnel. Shortly afterwards, towers bearing radar tracking antennas sprung up on both sides of Arapaho Road and in recent months still another building has been constructed to the south for storing the inventories of stock required by Alpha.

The company is divided into systems divisions, each working along certain lines of systems management. At present these are the Space Communication, Fleet Communication, Microwave, Scatter, Transportable Systems, Telecommunications & Data, and Construction Divisions.

Perhaps most spectacular of these is Alpha's Space Communication Division. During the first two years, it has received contracts for a number of major space projects. In Alaska, this division is providing the electronic gear in a ground station near Fairbanks which will be used to receive and process data from weather satellites in polar orbit. The work is being done for NASA's Goddard Space Flight Center.

The division has also completed major installations on satellite tracking stations at Jet Propulsion Laboratory's Goldstone, California facilities, and others in Woomera, Australia and Johannesburg, South Africa. At Richardson, Alpha maintains a complete tracking station which achieved fame in August, 1960, when it succeeded in relaying the first live voice radio signals via the Echo satellite. In May, the U.S. Army Signal Corps awarded Alpha a contract of $2½ million for modifying this station.

Alpha's varied projects have been widely dispersed, unlimited by geographical considerations. The company's engineers and crews have ranged around the world from South Africa to France and from Alaska to Australia. And while the company — being neither a manufacturing enterprise nor a service operation restricted to a given region — could operate successfully from a number of locations, Dallas has proved to be as advantageous a headquarters city as any that could be found in the world.

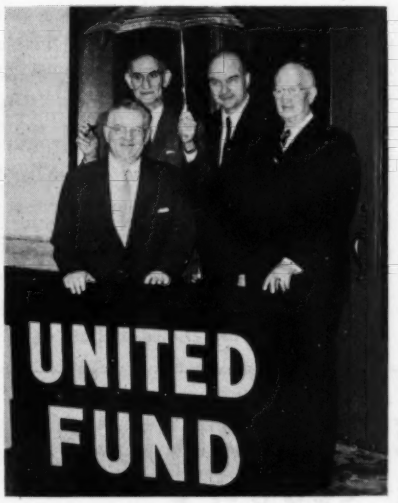
NEWS SPOTLIGHT

Chamber of Commerce Sponsors Contest

Twenty couples winning a contest titled "Fifty Fabulous Hours" will be treated to a dream-come-true weekend in Downtown Dallas as guests in the city's finest hotels, famous restaurants and entertainment spots.

The Fifty Fabulous Hours for the winning couples will begin Friday evening, July 28, and continue through Sunday.

The contest is sponsored by the Downtown Committee of the Dallas Chamber of Commerce.



An umbrella shields off rain as new signs are placed on the Dallas County United Fund building. Front, Fred M. Lange, executive vice president of UF. Back, l-r, Julius Schepps, Erik Jonsson, president of UF, and James H. Bond, 1962 chairman.

Schepps Memorial Chest Center Houses United Fund

The Schepps Memorial Community Chest Center now houses the newly-formed Dallas County United Fund.

The two large signs placed on the building to indicate United Fund's location were donated by the McAx Company through its president, J. B. McMath, Sr.

The United Fund will conduct the financial campaign for the present 38 Community Chest Agencies and the Red Cross, plus other welfare, health and recreation agencies that have applied for admittance.

The building was presented to the citizens of Dallas in 1945 by the children and grandchildren of the late Jennie and Joseph Schepps.

News Spotlight

SMU Graduate Council Selects Fellows

Southern Methodist University's Graduate Council, patterned after the renowned Princeton Humanities Council, has announced the selection of its first fellows. All are SMU faculty members.

Chosen were Dr. Pascal Covici, Jr., assistant professor of English; Dr. William R. Farmer, associate professor of New Testament; Dr. Jack Frederick Kilpatrick, professor of composition and orchestration; Dr. Laurence Perrine, professor of English; Dr. Harry Prosch, professor of philosophy and J. Lon Tinkle, professor of French and comparative literature.

They will be relieved of their usual academic duties during the 1961-62 college year to engage in scholarly discussion and in research and writing on specific projects in the area of the humanities.

The Council is jointly sponsored by the university and the Danforth Foundation.

News Spotlight

Memorial Home Breaks Ground For Expansion

The C. C. Young Memorial Home has broken ground on a site at Mockingbird Lane and Lawther Drive for the largest expansion in its history.

The expansion involves five modern buildings — four residential and one community activities-administration building. The new facilities will cost $1,200,000, part of which is being raised by contributions.

In honor of President J. W. Blanton's 27 years of service to the home, the addition will be known as Blanton Acres of the C. C. Young Memorial Home.

The expansion will enable the home to minister to 112 more older persons, both men and women, whereas the present home can accommodate only 52 women.

*

Swimming Pool Given to Southeast YMCA. Mrs. O. J. Parrott has made a $55,000 gift to the Southeast YMCA to help in the construction of its new building and swimming pool.

Mrs. Parrott's gift was in honor of her late husband, who sold the present ten-acre site to the Southeast YMCA in 1954.

The architects now are designing final plans for the building and swimming pool, to be known as the "O. J. Parrott Memorial Pool." Construction is expected to start in the next sixty to ninety days.

News Spotlight

Hunt Receives Seay Award. Carl H. Hunt has been named this year's recipient of the G. Mabry Seay Award "for outstanding service in his community and industry."

The award is presented annually by the Dallas Association of Insurance Agents to a stock company fire and casualty man "for outstanding service in his community and industry."

Mr. Hunt, owner of the Carl H. Hunt Insurance Agency, is a vice president and director of the Texas Association of Insurance Agents, former president of the DAIA and former chairman of the Insurance Placement Board of Dallas.

*

Republic to Make Loans For College Educations

Republic National Bank has become the first bank in Dallas to offer a new commercial banking service — that of financing college educations for area youngsters through an especially designed plan of bank borrowing.

Designated as "HELP" — or Higher Education Loan Plan — the new program will be implemented through loans in amounts from $500 to $10,000. Funds will be available for tuition, room and board, laboratory fees, textbooks, clothing, transportation costs and other expenses directly contingent upon college attendance.

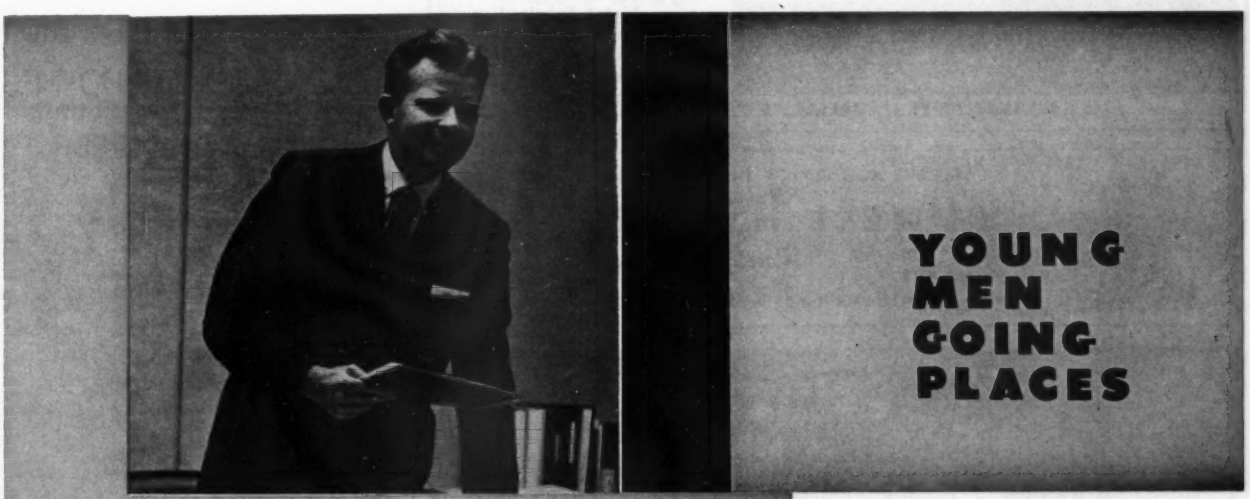
Applicants for "HELP" may be parents, guardians or other adult relatives of children who are juniors or seniors in high school, or who are undergraduate or graduate students in any fully accredited college or university. Life insurance will be carried on the life of the borrower for the entire amount of each loan, assuring the student covered by "HELP" of funds to complete college work in event of the death of the principal borrower.

*

Colonel St. Claire Awarded Austrian Medal. The Federal President of the Republic of Austria has conferred the Austrian Golden Medal of Honor on Colonel William K. St. Claire of Dallas for services to the Republic of Austria.

Colonel St. Claire is president of The St. Claire Enterprises of Dallas, and also serves the Republic of Austria as Honorary Consul for the states of Texas, Oklahoma and Arkansas.

Colonel St. Claire is the holder of various other decorations, including the United States Bronze Star, French Croix de Guerre with Silver Star, and the French Cross of Lorraine.



Lee D. Webster

By Seth Kantor

"The New Millionaires and How They Made Their Fortunes," a book by the editors of The Wall Street Journal, is to be found on a table in a large, tastefully simple office on the upstairs floor of the vast two-story Ling-Temco plant on Jupiter Road.

In the book is a chapter about one James J. Ling. One of three personally penned inscriptions in the book to its owner, Lee D. Webster, goes like this: "Dear Lee — Thanks for your fine help these many years . . . Sincerely, Jim."

Lee Webster is an apple-cheeked, freckle-faced, red-haired 37-year-old self-propelled executive who is Jim Ling's vice president, secretary and treasurer.

He brushes aside his titles and his role in the phenomenal growth of Ling's enterprises with this comment only: "When you get right down to it, all I am is a shiny-pants'd bookkeeper."

His primary roles are in organizing legal, technical and financial negotiations for expansions of the electronic empire, and then coordinating the operations that extend through 20 states, Canada, the Pacific and Europe.

When Lee Webster, blind in one eye, joined forces with Jim Ling in 1958, the young empire was worth $6 million in assets, $6 million in business volume and $2.6 million in equity.

By last year, total assets had skyrocketed to $93 million and there was $148 million involved in business volume, with assets of $29 million.

The last day of August, when the empire becomes known as Ling-Temco-Vought, assets will be listed at $350 million.

Despite just one good eye, Lee Webster, who arrived in Dallas unknown and unmoneyed 11 years ago, feels that "one must see a three-dimensional application of things" in order to run the business affairs of projects worth hundreds of millions of dollars.

Ling-Temco's Management Club presented him with a gorgeous set of matched golf sticks last Christmas. He has tried them out once. "It is an interesting game," he comments. He may try it again — someday.

"You've seen people like me before," he explains. "My hobbies are work. It doesn't take genius to run these affairs, though I guess it is considered unusual to hold three board of directors' posts in a concern this large. It simply takes hard work."

Immediately between drawing up gigantic merger plans between Ling-Temco and Chance Vought, and then going to England to supervise the taking over of Pye Ltd., in June, Mr. Webster had a free day.

It was June 2. So he was married. Because of his tireless work schedule, Miss Sandra Collins waited patiently for the occasion. They live at 3737 McMillan. She continues to understand the demands of giant industry on her husband.

Born in Mississippi, he was one of twin sons and one of four children in a family that was broken by the death of his father while Lee Webster was in school.

He and his twin, Sam Webster, enlisted together in the Army Air Corps. Lee was a B-29 sergeant in the Pacific before authorities discovered he couldn't see anything in front of him with his right eye.

A graduate of Creighton University in Omaha in 1950, in both finance and pre-law, the freckle-faced twin who looked like Andy Hardy then, made a careful study of the best area in the nation for his progress. He decided Dallas had a bombastic future.

Going to work first for Dresser Industries, he became financial advisor. Working many hours a day "there still wasn't enough to keep me busy." So he began going to the academically tough S.M.U. Law School at night, carrying a heavy load of study.

He also neglected to tell the Dresser Industries people, in applying for a job in 1950, that he had become only the 210th person in Nebraska history to pass the rugged CPA examinations there.

"I didn't want to sound like some kind of bookish whiz," he apologizes.

Young Mr. Webster's key to running the business affairs of an empire? "It all hinges in the human element," he explains. "You're only as successful as your ability to convey to others what must be done."

A man with a warm personality to back up that philosophy is Lee D. Webster of the Ling empire.

CLUBS and ASSOCIATIONS

Civitan International Names Kuler

Fritz Kuler, KRLD-TV program director, has been elected president of Civitan International at the service organization's convention in Toronto.

Mr. Kuler has served as special assistant to the president of Civitan International, as the organization's first director of membership, and as treasurer. For the past several years he has traveled extensively in the United States and Canada to address audiences in the interest of good citizenship, Civitan's primary objective.

Lynch Named to Head Research Foundation

W. W. Lynch, Dallas industrial executive, has been elected president of Texas Research Foundation at Renner.

Mr. Lynch also has been elected chairman of the Foundation's executive committee.

Clubs and Associations

Clore Appointed to Rehabilitation Commission

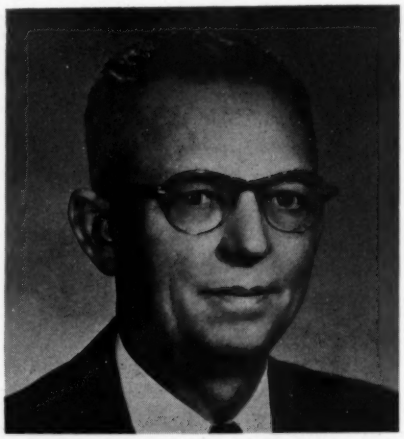
Gerald L. Clore, executive director of Goodwill Industries in Dallas, has been named to the newly-formed World Commission on Vocational Rehabilitation.

The Commission is a subsidiary of the International Society for Rehabilitation of the Disabled and will be directed by John A. Nesbitt of New York City.

Mr. Clore has directed the Dallas Goodwill operation for more than 18 years and has been instrumental in the establishment of other Goodwill Industries in the Southwest and Latin America.

*

Greene Heads Mortgage Bankers. M. J. (Bill) Greene, vice-president of Southern Trust and Mortgage Company, has been elected president of the Dallas Mortgage Bankers Association. Other new officers are Robert D. Johnson, general manager of Murray Investment Company, vice president, and A. G. (Denny) Wallace, vice president of the First National Bank, secretary and treasurer.



Export-Import Club Names Waller. V. R. Waller, vice president of Mercantile National Bank, has been elected president of the Dallas Export-Import Club.

Other officers elected include Walter Brudno of Kilgore & Kilgore, first vice president; N. T. Hammet of Meinke-Hemmet Company, second vice president, and Scott McCrary of Ideco Incorporated, secretary-treasurer.

*

Chapelle Named Head of Skal Clubs. Don Chapelle, Pan American Airways, has been elected president of the Dallas-Fort Worth Chapter of Skal Clubs International. Other newly-elected officers include Bruce Daigler, Swissair, vice president; Paul Woodward, Travel, Inc., treasurer, and Robert Watson, D. P. R. Canadian Pacific, secretary.

*

CPCUs Elect Beck. William M. Beck, Texas Employers Insurance Association, has been named president of the Dallas Chapter Chartered Property and Casualty Underwriters.

Elected to serve with Mr. Beck are Robert G. Bezucha, Hartford Fire Group, vice president; Robert J. Crook, American Foreign Insurance Association, secretary, and Mrs. Joyce Tharp, Anderson & Rekerdres, treasurer.

Directors include Carl H. Hunt, Carl H. Hunt Agency; Leon Embry, Texas Employers Insurance Association; Cruger S. Ragland, Ragland Insurance Agency, and M. S. (Mike) Halouzka, American International Underwriters Corporation.

Mr. Beck, also, is to be the general chairman for the national convention of the C.P.C.U. organization which will be held in Dallas in September, 1962.

Electronics Distribution

(Continued from Page 47)

SEI was incorporated in Texas in January, 1954 with John W. Stanfield as president and founder. Their home office is in the Meadows Building and the firm has a branch in Houston. SEI has a components division and an instrument division staffed by specialists in individual fields.

J. Y. Schoonmaker is a pioneer electronics distributor who is a past president of the Southwest Chapter of the Electronic Representatives Association and served as national president of E.R.A. in 1953.

The J. Y. Schoonmaker Co. originated in 1933 as a one-man organization with a one-room office and seven or eight lines of radio parts. Today, the firm has 10 employees and represents some 20 lines of electronic components and instruments, with supporting stocks, in their 5,000-square-foot office and warehouse. They also maintain branch offices in Houston and San Antonio.

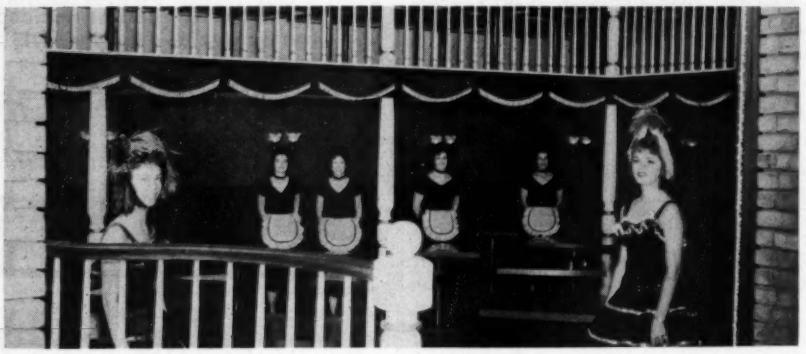
Wilkinson Brothers Company has been serving Dallas since 1932. This firm distributes electronic components and equipment from primary manufacturers. With 30 employees, Wilkinson maintains a headquarters building at 2406 Ross and its Oak Cliff branch at 628 Centre Street. About 60 per cent of Wilkinson business is industrial and the firm carries on a large business for repair and replacement equipment for radio and television stations and automation equipment.

Contact Electronics Inc. is a relatively new distributor in Dallas. Their Dallas operation began in May of 1958 with three employees. They now have 25 employees and occupy 4,700 square feet of office, manufacturing and warehouse space at 2403 Farrington in the Trinity Industrial District.

John W. Busacker, president and founder, likes to say that his company is in the third phase of electronics distribution. The first is in radio and TV parts distribution; the second phase is the broad line industrial distributor, handling only industrial electronics, and the third phase is the few lines specialist who stocks components in depth rather than breadth.

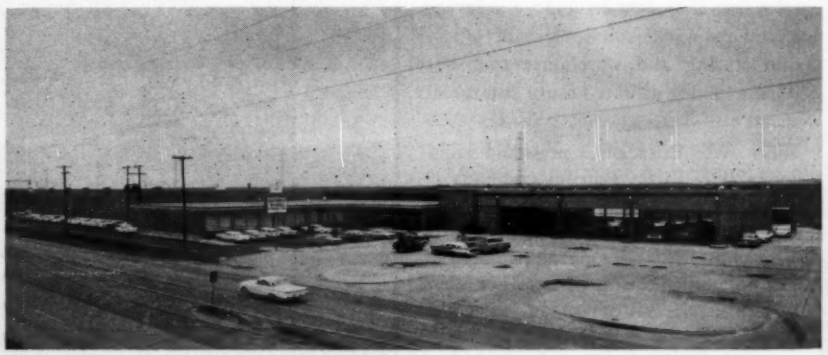
These firms and others make up a steadily growing segment of Dallas distribution that is growing with the development of the electronics industry in the Southwest.

NEW AND EXPANDING BUSINESS



The fourth Cattlemen's restaurant in the Dallas-Fort Worth area opened last month in Preston Center at 4011 Villanova. Cattlemen's Preston Center seats 364 people in two elaborate dining areas. Above, the Gay 90's room and balcony, decorated in picturesque turn-of-the-century motif, contains many antiques. Western atmosphere dominates the Ranch Room, which has an authentic fifteen-foot waterfall.

Phil's Kosher Style Restaurant and Delicatessen is now located downtown at Bryan and Ervay, opposite the Republic Bank. The restaurant serves breakfast, lunch and dinner, and features both American and Kosher cooking. An added attraction is the valet service for those who wish lunch orders delivered to their offices.



Southwest Wheel and Manufacturing Company has announced the opening of its new building at 2425 Irving Blvd. in the Trinity Industrial District. The 90,000 sq. foot structure, designed by Gordon and Baker, architects, was constructed by the Fairway Company, general contractors. Southwest Wheel and Manufacturing Company is distributor of nationally known lines of truck, trailer and wagon equipment.

New and Expanding Business

North Lake Shopping Center, located at the northeast corner of Northwest Highway, Ferndale and Easton Roads, has just been sold for $1,500,000 to Northlake Corporation, headed by James H. Clark, investment analyst and investor formerly associated with the Murchison Brothers, by David D. Bruton and Bedford Wynne. The transaction was handled by Dick Parker and Fred Smitham for Majors & Majors, Realtors. Bruton and Wynne acquired the 15-acre tract in 1958 for $300,000 from J. M. Tuttle, developer of Lake Highlands. Approximately $1,000,000 has been invested for buildings and improvements. That transaction was also handled by Parker & Smitham for Majors & Majors, who acted as exclusive leasing agents for the center. At present there are 25 tenants in the Center with approximately 120,000 sq. ft. of buildings. James H. Clark purchased North Lake Shopping Center for long term investment property. He was formerly associated with Lee Higginson Co. and Laurence M. Marks & Co., New York and Duff & Phelps and Duff, Anderson and Clark, Chicago.

First Federal Savings and Loan Association has opened a new Town North Office at 631 Preston Royal Village. James I. Blackmon has been appointed office manager.

Great Southwest Warehouses, Inc. has moved its moving and storage division to new headquarters at 5929 E. Northwest Highway. The 45,000 sq. foot building houses executive offices for the division, household goods depository and base for household moving activities plus rug vault, storage racks, and driver's lounge.

New and Expanding Business—

▸ Collins Radio Company's Texas division has received a $4,000,000 contract from the U. S. Army Signal Corps for a large number of portable scatter communication terminals, known as the AN/TRC-80. The terminal is readily transportable by aircraft, helicopter or land transport, and a two-man crew can place the system in full operation within ten minutes after arrival at a site.

*

▸ Grinnan Development Company has completed and readied for occupancy the 106-unit Turtle Creek Garden Apartments. Built on five levels, terraced into a four and one-half acre hillside tract, the apartments front on Turtle Creek Boulevard between Fairmount and Gillespie Streets. Eleven buildings are included, ranging in height from two to four stories, each with a Turtle Creek Boulevard address. Lewis Grinnan, Jr. and J. Shepherd Grinnan are partners in the Grinnan Development Company, which also owns and operates several other large apartments in north and east Dallas.

New and Expanding Business—

▸ Dean Van Lines, Inc., is constructing a new combination office and warehouse at Iron Ridge and Halifax in the Inwood Industrial District, Dallas. The new structure will contain 20,250 square feet and the total land area of 54,600 square feet will provide space for employee parking and truck loading ramps, and allow for future expansion of facilities. Haughton, Hines & Templeton are the investment builders. Architectural design was by John Preston Travis, with structural engineering by Charles F. Terry. John Waller is vice-president and sales manager of the Dean organization.

*

▸ Renault Southwest, Inc., a newly-created, wholly-owned subsidiary of Renault, Inc., of New York and France, has planned a first-year expenditure of $1,500,000 in Dallas to establish and operate a distribution center and parts depot for the Renault line of imported motor vehicles. Most of the funds to be spent in Dallas will be for salaries, office and warehouse space, and for the parts depot. Gordon S. Cummings is manager of Renault Southwest, Inc.

New and Expanding Business

Spartan Department Store at 1639 South Buckner, designed to give the ultimate in self-service, has 60 complete departments, catering to every member of the family and to the home. George W. Eble is operations manager for the new store.

▸ Southwestern Life Insurance Company of Dallas and Atlantic Life Insurance of Richmond, Virginia, have merged their operations. With the consolidation, Atlantic Life becomes the Atlantic Division of Southwestern Life. The division headquarters in Richmond will serve eight states and Washington, D. C., into which Southwestern Life expands with the consolidation. The new states include Florida, Maryland, North Carolina, Pennsylvania, South Carolina, Tennessee, Virginia and West Virginia.

*

▸ Floyd West & Company, 62-year-old Dallas general agency, has been acquired by Crum & Forster of New York, one of the nation's largest underwriting management organizations. Floyd West & Company will retain its corporate identity and headquarters will remain in the present location at 2103 Bryan Street in Dallas. As manager of a newly-created Texas department, it will supervise activities of Crum & Forster group in Texas.

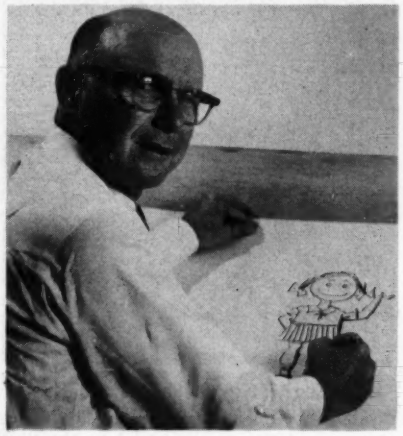
▸ Frontier Printing Company of Grand Prairie has taken a ten-year lease on a 7,000-square-foot building located at 2322 Irving Boulevard. The modern, air-conditioned facility was built by the J. L. Williams Company. Lease arrangements were handled by Henry Maher of Majors & Majors, Dallas realtors.

*

▸ Southland Life Insurance Company, Dallas, and Carolina Life Insurance Company of Columbia, South Carolina, have consolidated. The combining of the two companies brings Southland Life's resources to more than $300 million and its insurance in force to over $1,800,000,000. The Carolina Life Division of Southland Life will continue to operate all agency and various administrative functions from its present home office building in Columbia, under the direction of A. Hart Kohn, Jr., formerly president of Carolina Life and now vice president in charge of Southland Life's Carolina Life Division.

Rauscher, Pierce & Co., Inc., dealers in stocks and bonds, has opened a ground floor office in the arcade of the Mercantile-Dallas Building at Commerce and St. Paul. The new facilities include a quotation board with latest prices of the stocks that are most actively traded on the New York and American Stock Exchanges.

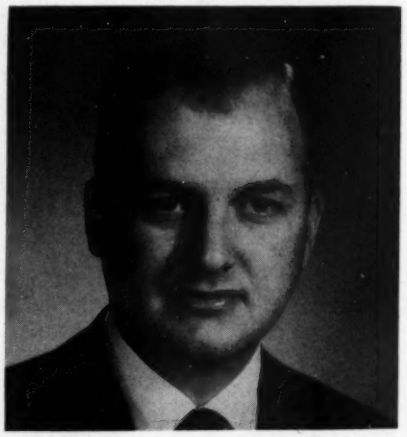
ADVERTISING–MARKETING–COMMUNICATIONS



Bud Biggs, commercial artist, studio head, teacher and staff artist for DALLAS, has been named the second recipient of the **Dowdell-Merrill Pacesetter** Award. The award is given by the Dallas printing firms to recognize individuals whose personal leadership has contributed to the growth of the graphic arts industry in the Southwest. Mr. Biggs was named for his creative talent in watercolor and pencil renderings and for his teaching and organization work in graphic arts over the past thirty years.

Bill D. Kerss, formerly editor of Southwestern Advertising & Marketing Magazine, has joined the account service staff of **Tracy-Locke Inc.** Mr. Kerss is a graduate of North Texas University and was previously associated with the Denton Record-Chronicle at Denton, Texas. He is an active member of the Dallas Advertising League and vice chairman of its publicity committee.

Advertising — Marketing — Communications



Maurice M. Kay, Jr., has joined the staff of Carlocke-Langden, a Dallas-based firm which specializes in planning, creating and producing motion pictures, slide films and television commercials. Mr. Kay comes to Carlocke-Langden from Fort Worth, where he owned and operated Maurice Kay & Associates, one of their largest art studios, for five and one-half years. Mr. Kay is a graduate of the University of Texas.

*

William W. Horsman, President of Trans American Inventions, Incorporated, is publishing a new magazine in Dallas, **Inventions Report.** The purpose of the publication is to present product ideas to manufacturers and to serve inventors. The magazine will have special sections devoted to needed inventions, patent procedures, patent questions and answers and foreign patents available for license and sale in the United States.

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Producer Services Inc., located at 4519 Maple Avenue, began operations July 1 under the direction of **Robert G. Redd,** president, formerly vice president of the Jamieson Film Company. Producer Services will serve independent producers and in-plant cinematographers with motion picture finishing services from script to screen. Fully equipped editing rooms, sound recording, multi-channel interlock facilities and sound stages will be part of the equipment of the new firm.

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Raymond L. Grace has announced the formation of **Raymond Grace Business Services** with offices in the Wynnewood Professional Building. This firm will specialize in the internal sales and business analysis phase of marketing research.

Advertising — Marketing — Communications

Lloyd M. Gilmore, president, has announced the change of name of the former Dallas Graphic Arts Association to **Printing Industry Association of Dallas.** The change was made to facilitate the identification of the organization with the printing industry of Dallas. The Association is affiliated with the Printing Industry of America, Washington, D.C.

*

Frank A. Muth has been appointed general manager of the **W. J. Winter Publications,** a division of Business Directory Publishing Co. of Dallas. A graduate of the University of Missouri, Mr. Muth was director of public relations for Lutheran Hospital in Cleveland, Ohio and for ten years was editor of McGraw-Hill's Electrical Merchandising and other trade journals in Cleveland.

*

The work of **Jerald O. Page** and **Martha F. Robbins,** of Robbins, Caver, Page & Associates, Dallas, is featured in the **Chicago Annual Exhibition** by non-resident members of the Society of Typographic Arts. The exhibition is being shown throughout July at Chicago's Normandy House Gallery. Work being shown by Robbins, Caver, Page & Associates is a Chance Vought Corporation invitation to the 1960 Army Aviation Association Convention.

Wilson Goss, Dallas agency man for the past fifteen years, now heads the Dallas office of **Joseph F. Cavanaugh, Ltd.** advertising and public relations agency of Milwaukee, Wisconsin. **Hillery Mather,** former staff member of the Don Baxter Agency, will also serve as a Cavanaugh account executive. Offices of the new agency are located in the Vaughn Building.

Texas Instruments

(Continued from Page 31)

Sales increased to $27,100,000 in 1953 and employees numbered 2,227.

The company's rapid emergence as a leader in the semiconductor industry was due in large measure to two important production developments in 1954. These were the first commercial production of silicon transistors and the mass production of superior quality high-frequency germanium transistors.

The silicon transistor, which operates in a temperature range twice that of the germanium transistor, removed the barrier to transistor applications in military, space and industrial fields where the critical factors are independence of temperature effect and extreme reliability.

Mass production of the superior quality high-frequency germanium transistor created the first mass market for transistors and permitted their sale at prices which made practical the first pocket-size transistor radios. Mass production techniques and accompanying cost reductions resulting from this effort accelerated by as much as two years the development of other major markets.

When decision was made after World War II to broaden the base of the company's manufacturing effort, a new 35,000-square-foot plant was built. It housed all of the company's activities other than that of the field crews. Although this plant was constantly being expanded during the next ten years, and presently includes more than 250,000 square feet of space, it had become increasingly evident that additional space would be needed for production, research and administration purposes. In 1956 a second tract of land in Dallas was purchased as a site for additional facilities and a new 60,000-square-foot plant was completed in Houston to accommodate the rapidly growing instrumentation manufacturing activity.

Total sales for 1956 were $45,699,000 and there were 4,200 employees at year end.

Development of an industrial and technological complex on the new Dallas site began early in 1957 with start of construction on a plant to house the Semiconductor-Components division. Completed in two phases, it contains more than 630,000 square feet of space. The first unit, comprising 310,000 square feet, was dedicated in June, 1958, on the tenth anniversary of the transistor's invention at the Bell Laboratories. The entire building embodies several completely new and revolutionary architectural concepts for industrial design and construction. It has been widely acclaimed as being the most economically functional and flexible plant in the entire industry, as well as the largest.

Today approximately one-half of the 350-acre site is covered by five completed and functioning buildings, paved access streets, paved automobile parking areas, and landscaped grounds. In addition to the new Semiconductor plant, there is an 87,500-square-foot Central Research building, a 33,000-square-foot plant for manufacturing basic semiconductor materials, a Central Cafeteria and a Utilities building.

Early in 1957 a subsidiary company, Texas Instruments Limited, was formed in England to manufacture semiconductor devices for marketing within the United Kingdom. Before the close of the year production was under way in a 19,000-square-foot leased building at Bedford, thus beginning the company's first manufacturing activity outside of the United States.

During 1958, efforts were greatly expanded in mechanizing and automating semiconductor manufacturing and testing processes.

Sales for 1958 reached $91,953,000 and employment, 7,500.

Several developments accentuated the company's continuing pattern of rapid growth in 1959. These included merger into Texas Instruments of Metals & Controls Corporation and start of construction on a new 132,000-square-foot plant for Texas Instruments Limited at Bedford. Early in the year, Texas Instruments announced development of its Solid Circuit semiconductor network which combines in a single crystalline wafer transistors, diodes, resistance and capacitance. The TI network offers vast implications for greater reliability, extreme microminiaturization and eventual economy in electronic circuitry. Its introduction evoked an industry response similar to that occasioned by the introduction by Texas Instruments in 1954 of the first commercial silicon transistors in that commercial development of the semiconductor network was believed generally still to be several years away.

Since the late Forties and early Fifties, the business base of Texas Instruments had been shifting constantly, not only in research but in engineering and manufacturing as well, towards materials technologies — the abilities to comprehend,

create, manipulate, and fabricate new materials with particular emphasis on knowledge at the structure-of-matter level. This had led the company into the semiconductor field in 1952. It was basic to the orientation given the Central Research Laboratories when they were established in early 1953. And it was principal to the company's interest in Metals & Controls Corporation whose business also was materials based but at the metallurgical level. The merger brought to Texas Instruments a wide variety of product lines embracing clad metals, thermostatic and electrical controls, and nuclear fuel elements and cores, as well as major plant facilities in Massachusetts, supplemented by a second domestic plant in Kentucky, and overseas manufacturing operations in Holland, France, Italy, Argentina, Mexico, and Australia.

In a further move to internationalize the scope of its operations, Texas Instruments opened in 1959 its first product sales office on the European continent in Paris and began establishing exclusive semiconductor distributorship in key European market areas. The company's exploration activity had maintained European sales and operational offices for many years.

Company sales for 1959 reached $193,212,000 and the number of employees approached 15,000 at year-end.

Texas Instruments had the best year in its history in 1960, continuing its growth and substantially increasing its organizational strength. All phases of nearly 200,000 square feet of space and product marketing organizations strengthened in depth and geographical spread to serve promising new areas. The thermostatic and electrical controls plant at Almelo, Holland, was doubled to 40,000 square feet and a second plant was constructed in Australia for the fabrication of strip metal.

A new subsidiary company, Texas Instruments France, was organized to manufacture semiconductor devices for marketing within the Common Market countries. Production was started on a 32,000-square-foot leased building at Nice pending construction of a company-owned plant in the same vicinity.

Texas Instruments marketing operations in Western Europe, except for the United Kingdom and France, were centered in an office established at Geneva; a company-wide sales office was opened at Darmstadt, Germany, and the European network of exclusive semiconductor distributorships was expanded to Norway, Sweden, Denmark, the Benelux countries, Germany, Switzerland, Italy and Australia.

As the year closed, construction of a new 132,000-square-foot plant for Texas Instruments Limited was nearing completion at Bedford. Ten times the size of the first Bedford plant, the new facility embodies in its design the same revolutionary architectural concepts originated for the Dallas plant.

Company sales for 1960 amounted to $232,713,000 and employees numbered 17,000.

Since its founding in 1930, Texas Instruments has been dedicated to the commercial exploitation of new technologies. As an institution, it lives and grows by creating, making and marketing new products. A basic company philosophy is that Texas Instruments must be product-customer centered with major product activity originating in the research and development group, flowing through the manufacturing and marketing organizations, and terminating with the satisfaction of a continuing customer need. An integral part of product-customer centering is the recognition and creation of new customer needs resulting from technological change.

The company's deliberate policy of planned, profitable growth has been intimately related to continuing high levels of research, development and engineering activity, carried on as close to other product operations as possible. Each major product group has its own engineering and development group with full capabilities to handle any technical problem in its field of interest. These groups are supplemented by the Central Research Laboratories which conduct basic and long-range investigations of general interest to the company. The development and engineering group in each product activity receives technical contributions from the Central Research Laboratories and from the technical groups in other major product activities.

Texas Instruments calls its research, development and engineering activities its "Total Technical Effort." Expenditures for TTE have steadily grown over the years from $2½ million in 1954 to $6 million in 1956 to $16 million in 1958 to $38 million in 1960. About one-half of these expenditures have been supported by others, principally the U. S. Government, with the other half company supported.

CITY HALL REPORT:

Editor's Note: This is the twelfth in a series of articles outlining the activities of citizens who work on municipal committees and boards to make Dallas a desirable and dynamic city in which to live and do business.

Board of Equalization

H. N. Roberts, *Chairman*

Wesley Harris M. M. Straus

The Board of Equalization has the responsibility of making certain that taxes are assessed on an equal and equitable basis.

Section 190 and 191 of the City Charter outlines in detail the duties of the Board of Equalization. This important board which is appointed prior to June 1st each year by the City Council, is composed of three members who may or may not be members of the governing body but who must be taxpaying citizens well acquainted with real estate values. One member is designated chairman and he presides at all meetings. In accordance with the provisions of the charter the board meets as near as practicable upon the 15th day of June and continues until its work is complete except that it must adjourn by the 15th day of July following. As soon as the assessment rolls are completed by the assessor and collector of taxes they are referred to the Board of Equalization whose duty it is to equalize the taxes assessed and to make all necessary correction and adjustment to that end. The Board of Equalization has the power when sitting to compel the production of all books, documents, stocks, bonds and other papers pertinent to the investigation, to be produced before it in the investigation of the taxable values of any person or persons, firm or corporation having or owning property within the corporate limits of the City of Dallas and/or the Dallas Independent School District. The board has full power to correct any mistake, or injustice or inequality in the assessment of property for tax purposes. The city secretary or his assistant is ex officio secretary to the Board of Equalization. Members of the board while serving receive such compensation as may be provided by the governing body of the city. Immediately upon completion of its work the Board of Equalization certifies its approval of the assessment rolls. Any person aggrieved by reason of any act of the assessor and collector of taxes in making up the assessments, or in the valuation of property for tax purposes is entitled to make complaint to the Board of Equalization and appeal to the board for revision and correction of the matter upon which his complaint is based. The board shall hear and examine such complaint or appeal and may examine the complainant, agent or attorney and all other persons who may shed light on the controversy.

By contract, the City of Dallas assesses and collects taxes for the Dallas Independent School District, thus the Board of Equalization serves both, the city and school district.

In practice when a property owner complains to the Tax Department that his taxes are excessive or that he is paying more than his neighbor, the department's appraisal methods are explained and comparisons made of similar properties. If justified the appraisal record of the complaining taxpayer is referred to one of the department's appraisers who reinspects the property checking for any possible error. If no error is found then the assessment is placed before the Board of Equalization and the property owner is advised when to appear to outline his reasons for protest to the board. After the necessary information is obtained from the taxpayer the board reviews the assessment making comparisons with assessments and valuations of similar properties. In many instances the board will make an adjustment. However, in many other instances they find that an adjustment cannot be made without causing an inequity.

With some 385,000 property owners paying over $60,000,000 in city and school taxes it is next to impossible to eliminate complaints although every effort is made to hold them to a minimum. This is evidenced by the fact that last year only 82 property owners appeared before the Board of Equalization to protest their assessment. This is almost negligible when compared with the number appearing before similar boards in even the small taxing jurisdictions throughout the state.

The number appearing before the board to protest their assessment for each of the past five years is as follows:

1960	82
1959	97
1958	134
1957	209
1956	98

The small number appearing before the board results from the assessment procedure used in Dallas and the willingness of Dallas' citizens to pay their fair share of taxes. Up-to-date appraisal records, valuation maps, cost schedules, and a card with a description and sketch of each property are shown anyone with a question on their assessment. This convinces the majority of the property owners that assessments are equal and uniform.

In addition to hearing property owners who protest the valuation placed on their property by the assessor, the Board of Equalization reviews all properties in the city and the school district that have been revalued for tax purposes which is consistent with the city's continuous equalization program. This includes all properties in an area consisting of about ⅙ of the total area of the city each year. In addition the board reviews the appraisals of all other properties that have been revalued due to rezoning and where public and private improvements have been made, all of which usually enhance the value of the property.

Mr. H. N. Roberts, Chairman of the Board, has served the city continuously since 1935 while Mr. M. M. Straus and Mr. Wesley Harris have served for the past three years.

BOARD APPOINTMENTS

The following members have been appointed to the **Advisory Public Health Board**

Drs. Frank Jordan, Percy E. Luecke, Jr., Howard C. Coggeshall, Arvel E. Haley, Harold B. Younger, and Messrs. Fred M. Truett and Joe C. Stephens, Jr.

APPOINTMENTS and PROMOTIONS

HARDER DAVENPORT

WALK NICKELSON

R. R. DAVENPORT and **A. D. HARDER** have been named senior vice presidents of Southwestern Life Insurance Company of Dallas. **JEFF NICKELSON** and **ORA W. WALK** have been appointed vice presidents of the company. Mr. Davenport previously had served since 1951 as vice president and agency director; Mr. Harder has been vice president and treasurer since 1954. Mr. Nickelson and Mr. Walk, prior to their new posts, were second vice presidents and assistant agency directors.

*

DONALD H. DILMORE, CLU, has been appointed regional agency director for National Empire Life Insurance Company. Mr. Dilmore, with over eleven years of life insurance experience, formerly was in charge of recruiting and sales promotion for another Dallas-based company. He is a graduate of Franklin College.

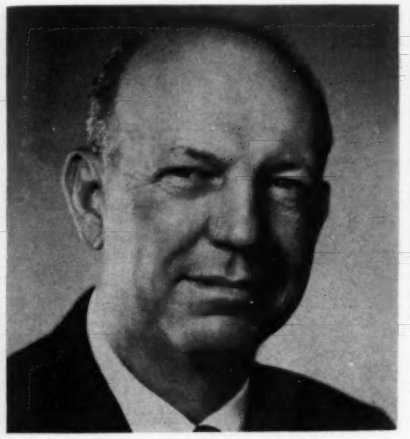
Appointments and Promotions—

RUSSELL H. PERRY, formerly executive vice president, has been named president of the Republic Insurance Company. **HUGH H. GAFFNEY,** formerly chief executive officer, has been named chairman of the board. Mr. Perry joined Republic as a clerk in the Chicago office in 1932 and was transferred to the Eastern Department in 1934. He became manager of that department in 1945 and was elected executive vice president and a director of Republic in 1959. Mr. Gaffney joined the Republic organization 40 years ago and was named president in 1942.

*

NEWELL C. JOHNSTON, manager of the credit department of Texas Bank & Trust Company, and **ROBERT W. BEDDOW** have been promoted to assistant vice presidents. **JOSEPH E. ASHMORE** has been elected assistant cashier of the bank. Mr. Johnston joined Texas Bank as an analyst in the credit department in 1957, Mr. Beddow as a teller in 1953. Mr. Ashmore came with the bank as a trainee in 1954.

Appointments and Promotions—



VIRGIL B. HARRIS has been elected president of Producing Properties, Inc., independent oil and gas producing company. A native Texan who has devoted more than 20 years to the oil industry as a petroleum engineer and administrator, Mr. Harris has served as the company's executive vice president and as a director since 1959. In other executive changes, **LIONEL E. GILLY,** formerly financial vice president and secretary, has been named senior vice president. And three of the company's principal engineers, **SIDNEY H. GOTTLIEB, KENNETH ENGLISH** and **H. EUGENE WRIGHT,** have been elected vice presidents.

*

THOMAS JOHN McCARTIN has been appointed materials manager for Dresser Electronics — HST Division (one of the Dresser industries) at the firm's main plant in Garland.

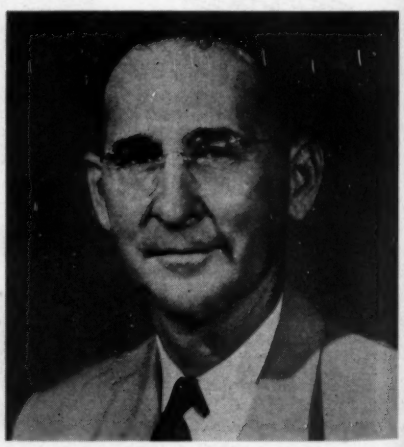
Appointments and Promotions—

FULGHAM PRESENT

J. RAWLES FULGHAM, JR. and **ROBERT T. PRESENT** have been advanced from assistant vice presidents to vice presidents of First National Bank in Dallas. **JOHN C. SCURLOCK, SAM SHARP** and **MARVIN L. WEST,** assistant cashiers, have been promoted to assistant vice presidents. And **LEONARD E. HUBER** has been named a new assistant trust officer. Mr. Fulgham is a business administration graduate of Southern Methodist University; Mr. Present is a graduate of Indiana University; Mr. Scurlock, Mr. West and Mr. Sharp are graduates of SMU; and Mr. Huber is a graduate of the University of Texas.

★

DONALD C. BENNETT has been named wholesale programs manager for the five-state southwest division of Mobil Oil Company. A native of Pennsylvania, Mr. Bennett has been with Mobil since 1931, with 23 years in sales supervisory capacities. He is past president of Dallas Manufacturers and Wholesalers Association.



Appointments and Promotions—

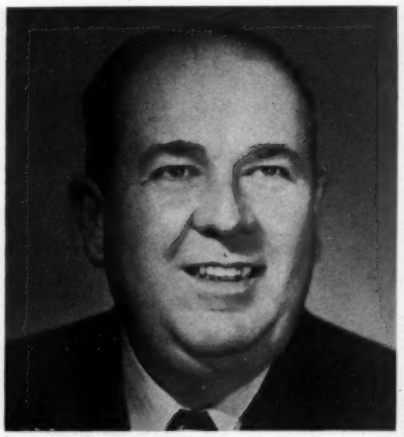
KENNETH L. TOPLETZ, assistant to the president of Byer-Rolnick Hat Corporation, has been named to vice president in addition to his other duties. A native Dallasite and a graduate of the University of Texas, Mr. Topletz joined Byer-Rolnick in 1951 and is a member of the firm's designing staff.

★

ROGER F. GARRELS has been promoted to director of agencies for Girard Life and Girardian Insurance Companies. Mr. Garrels, who majored in business administration and sales management at Long Beach City College and Woodbury College in Los Angeles, formerly was California regional manager for Girardian.

W. T. RUTHERFORD has been appointed vice president and regional manager-sales for the St. Louis, San Francisco and Texas Railway, headquartered in Dallas. Mr. Rutherford was named to the newly-created post in a recent series of personnel changes in the executive, traffic and operating departments of the Frisco Railway, of which the St. Louis, San Francisco and Texas is a subsidiary. Prior to his new post he was district manager-sales at Dallas.

Appointments and Promotions—



GLEN S. WOODS has been appointed general manager of The Borden Company's Dallas area operations. A former Dallasite, Mr. Woods has been general manager of Borden's operations in the Corpus Christi area and the Rio Grande Valley.

*

JAMES W. SCHOLLENBERGER, formerly vice president of Lewisville State Bank, has been named an active vice president of First Bank & Trust of Richardson.

Appointments and Promotions—

B. L. (BILL) DAWSON has been named manager of the Gas Appliance Center. Mr. Dawson, a native Texan, attended Baylor University and North Texas State College. For the past three years he has been a manufacturers' agent, representing leading lines of gas ranges, water heaters and space heating equipment.

*

E. A. WILLIAMS, vice president of Collins Radio Company, will assume central management responsibility for corporate controller and treasurer functions in addition to his present activities included under operations control. **J. B. TUTHILL,** vice president, will assume broadened responsibilities in the areas of financing and banking relations, and financial analysis. Meanwhile, Collins Radio Company announced the transfer to Dallas of five officers in its central management group from company headquarters in Cedar Rapids, Iowa. They include Messrs. Williams and Tuthill, and **W. W. ROODHOUSE,** vice president of administration, **D. H. FOSTER,** general attorney, and **J. M. HAERLE,** director of advertising and public relations.

BOOKS FOR BUSINESSMEN

Recently off the press is a revised and enlarged edition of John Caples' standard text on **Tested Advertising Methods.** This guide, now in its fourteenth printing, includes the well-organized, concrete advice in previous editions, plus new chapters on getting more inquiries from your advertising, making small ads pay, putting enthusiasm in advertising copy, and testing your advertising.

*

Use of the scientific method in advertising is the focus of Mark Wiseman's latest book. **The New Anatomy of Advertising** outlines what the author judges, from forty-five years of experience, to be the surest means of accumulating, evaluating, and synthesizing facts, and of using the resulting conclusions to solve advertising problems. This distillation of an outstanding career in advertising will provide new things to think about for both the beginner and the experienced man. The following quotation states Wiseman's underlying philosophy: "The primary function of advertising is to help the reader find means to satisfy needs, wants, and desires . . . Only by performing this function honestly and convincingly can it best serve the commercial interests of its sponsor."

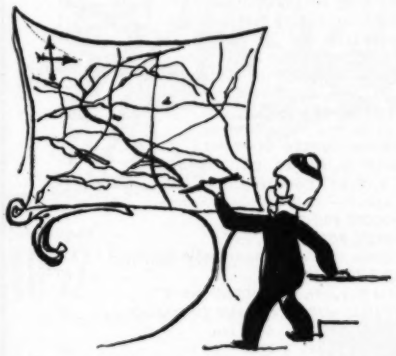
Allergy — What It Is and What to Do About It, now out in a revised edition, is of special interest to Dallasites, confronted with one of the highest pollen counts in the nation. Author and practicing allergist Harry Swartz, M.D., states, "Even the people who suffer from allergy are, for the most part, unaware of the cause of their suffering." He explains the amazingly varied causes and physical symptoms of allergic reactions, covering the latest developments in therapy.

*

With your health in mind — Morris Fishbein, M.D., editor of the **Modern Home Medical Adviser,** has recently edi-

Books for Business Men

ted another book for the layman — this one on **Heart Care.** Here twenty cardiologists explain, in clear, non-technical language, modern medicine's methods of detecting and treating changes in the heart. Royalties from the book, incidentally, are being devoted to heart research.



Vacation readers may enjoy a perusal of one of the myriad books appearing on man's venture into space. **The Space Guidebook,** by William Weiser, presents in question and answer form all the well-known facts about our solar system and outer galaxies, as well as the rocket and missile experiments which have taken place so far. In the appendix are profiles of the Astronauts and other interesting statistics. Written by a layman for laymen, this book is nevertheless authoritative throughout, as the impressive bibliography testifies. David O. Woodbury's **Outward Bound for Space** gives a readable account of our efforts to investigate space, from 1924, when the first liquid fuel rocket traveled 220 feet, to 1960, when Pioneer V was dropped into a solar orbit. The engineer-author goes beyond the present to sum up what we may expect in the future. Specialists in particular will welcome **The Exploration of Space,** a compilation of papers presented at a 1959 symposium held by thirteen of the country's top scientists engaged in astronomy and space research. Edited by Robert Jastrow, these papers survey the most recent developments in space science and delineate the major problems of the future.

By Miss Gay Pound
Librarian
Science and Industry Dept.
Dallas Public Library

Art by Frances Hughes

ADVERTISERS IN THIS ISSUE

AND THEIR ADVERTISING AGENCIES

Dallas Pioneers

Established
1857 Sanger Bros.
in Texas
Opened Dallas Store in 1872

1869 The Schoellkopf Company
Manufacturers and Wholesale Distributors

1872 Dallas Transit Company
City Bus Transportation

1875 First National Bank in Dallas
Banking

1878 National Bank of Commerce
Banking

1889 J. W. Lindsley & Company
Real Estate and Insurance

1890 William S. Henson, Inc.
Advertising Printing

1893 Oriental Laundry and Cleaners
Finer Laundering, Cleaning, and Fur Storage

1893 Fleming & Sons, Inc.
Manufacturers — Paper and Paper Products

1893 Sparkman's Inc. *Morticians*
Originally, Loudermilk, Broussard and Miller

1897 Anderson Furniture Co.
Dallas' Oldest Furniture Store

COTTON brought customers and industry to Dallas in the 80's and 90's, and provided the biggest traffic jams of that period. Cotton wagons similar to those in the above photograph, converged on Dallas downtown streets and curbs. Dallas got out of the mud in 1888 when twenty miles of streets were paved. That same year the first cotton cloth mill was established in Dallas. Spurred on by this and other commercial activity the pioneer printing firm of J. M. Colville & Sons was founded in Dallas in 1890. Originally quartered in a basement at 911 Commerce Street, this firm later moved to a building at 1725 North St. Paul which it occupied for more than 30 years. The late Wm. S. Henson joined the firm in 1929 and became vice-president and general manager in 1930. In 1942 the name of the firm was changed to Wm. S. Henson, Inc. In November, 1958, this firm occupied a new plant at 4901 Woodall in the West Trinity Industrial District. The building represents an investment of $250,000 and their equipment cost approximately a half-million dollars. Now in its seventy-first year, Wm. S. Henson, Inc., is under the direction of Lloyd Gilmore, president and associates, who are carrying on the traditions of Bill Henson. The Henson plant is one of the largest and best equipped advertising printing plants in the Southwest.

Business Confidence Built on Years of Service

Old firms, like old friends, have proved their worth by dependable service through years of prosperity and adversity. The business pioneers listed on this page have played an important part in building Dallas. They have met the challenge of economic change through decades of sustained operations. They are counted as "old friends" by thousands of satisfied customers in the Dallas Southwest.

Established
1896 Briggs-Weaver Machinery Co.
Industrial Machinery and Supplies

1902 Cullum & Boren
Red Fox Athletic Uniforms
Wholesale and Retail Sporting Goods

1898 Praetorian Mutual Life Ins. Co.
(Formerly The Praetorians)

1901 First Texas Pharmaceuticals, Inc.
In Dallas Since 1903

1905 Rubenstein & Sons, Inc.
Gulf Princess, Ready To Fry Breaded Shrimp
Lady Rite Shelled Pecans

1907 A. C. Horn & Company
Commercial and Structural Sheet Metal

1907 Smith-Perry Electric Co.
Wholesale Electric Supplies

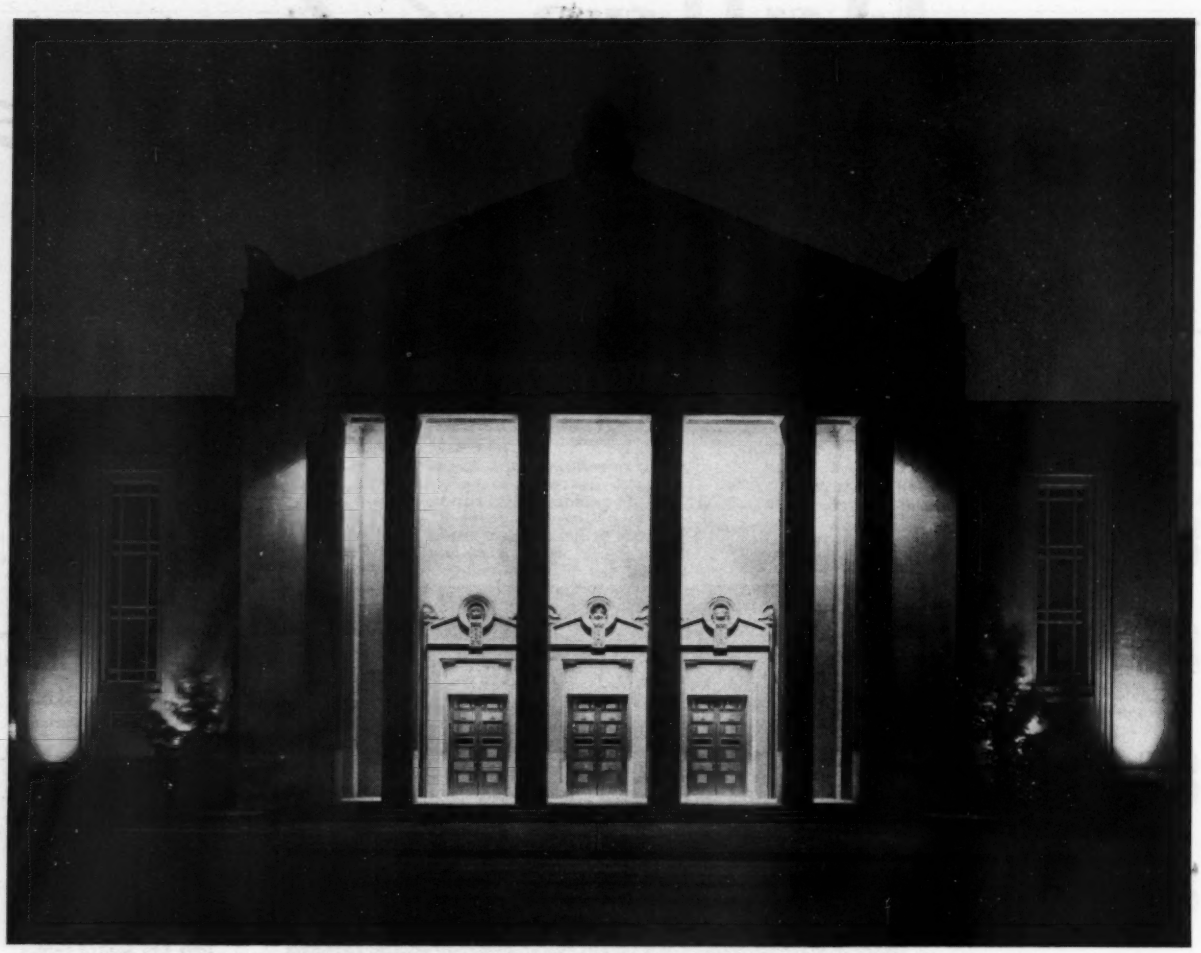
1902 Hunter-Hayes Elevator Co.
Passenger, Freight and Home Elevators

1911 W. W. Overton & Co.
Investments

1914 Texas Employers Insurance Ass'n.
Workmen's Compensation Insurance

1915 Dallas County Physicians & Nurses Registry
Licensed and Bonded

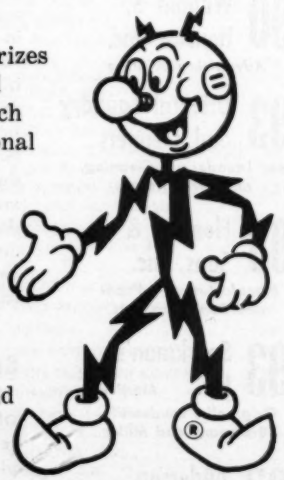
1919 Dallas Federal Savings & Loan Association
Savings and Home Loans



Gaston Avenue Baptist Church Addition • Architect: Mark Lemmon • Electrical Contractor: Anchor Electric Company

WELCOMING LIGHT ENRICHES ARCHITECTURAL EXCELLENCE

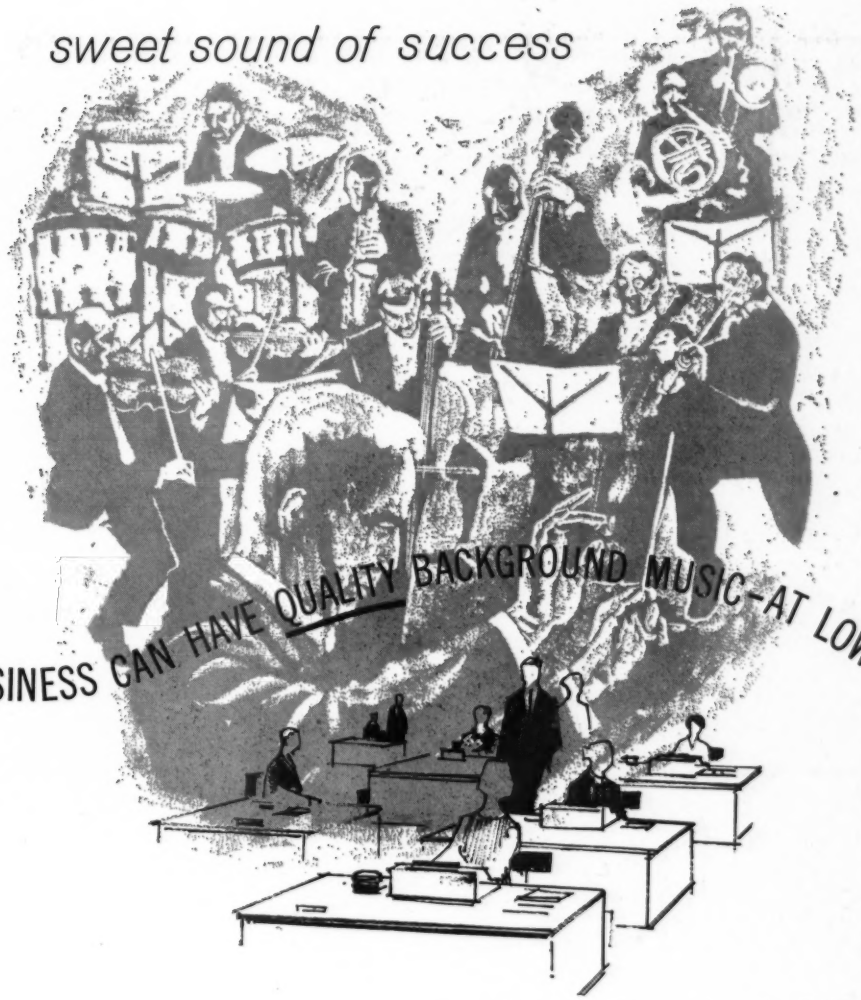
Design-planned flood lighting enhances the quiet dignity that characterizes the handsome addition to the Gaston Avenue Baptist Church. Graceful columns are strikingly silhouetted by carefully concealed lights which fully illuminate the back wall and floor of the entrance porch. Additional lights at either side, masked by shrubbery, call attention to well proportioned windows.



Architectural lighting plays an important part in today's building plans, because it extends the beauty-life of any structure into the evening hours. Modern exterior lighting can do the same for existing, older buildings as well, and can do it efficiently and economically. Let our lighting engineers suggest effective, practical ways for you to use design-planned light. There is no obligation. Just call RI 7-4011 and ask for Commercial Service Division.

DALLAS POWER & LIGHT COMPANY

sweet sound of success

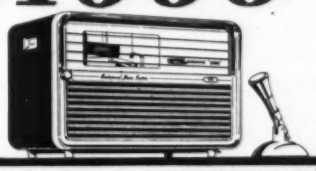


NOW YOUR BUSINESS CAN HAVE QUALITY BACKGROUND MUSIC-AT LOW COST!

New recording techniques have resulted in the first major innovation in background music: the SEEBURG "1000". This tiny, transistorized unit supplies the finest high fidelity ever offered in a background music system—and the cost is competitive with all other systems.

Business surveys prove good background music boosts employee efficiency; the same number of people produce more. Never too loud, never too soft, this beautiful background music is heard and appreciated, but never "listened to". And only Seeburg offers music *tailored* to your particular business. Your employees hear the *right* music to work by. A two-week demonstration will leave no doubt.

SEEBURG "1000"



ONLY ONE TINY UNIT SUPPLIES MUSIC TO SMALL LOCATIONS OR PLAYS THROUGH SOUND SYSTEMS OF ANY SIZE. With 1000 selections on only 25 high-capacity records, the Seeburg "1000" can play for two weeks without repeating a number. Continuing replacements for your library are furnished Seeburg by the world's leading orchestras, recording in beautiful high-fidelity.

call or write today for your two weeks free trial of the Seeburg "1000"

S. H. LYNCH COMPANY, INC.
2900 GASTON AVENUE / P. O. BOX 3069
DALLAS 21, TEXAS / TAylor 4-0381
DEALER AND FRANCHISE DISTRIBUTOR
SEEBURG BACKGROUND MUSIC SERVICE SYSTEMS

Helping business grow has long been a habit with Mercantile Men. Fact is, we pride ourselves on *anticipating* your needs. With some 27 specialized business services, we combine an objective point of view with a knowledge of the Southwest, its people and its products. We learned long ago that whatever benefits you and your business also benefits *us*. Whether your needs center around sound financing, confidential credit information, tax-free Municipal Bonds, estate planning, or pension and profit sharing plans it will be a pleasure for Mercantile specialists to serve you. Just dial RIverside 1-4181.

MERCANTILE NATIONAL BANK
AT DALLAS • MEMBER F. D. I. C.